

**KLEEV USA INC.**

**KLEEV** USA



**Instrumentation**

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**Industrial Valves**

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**Solar**

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## INTRODUCTION

Incepted with well-equipped facilities and qualified engineers to offer quality, economical and delivery of Instrumentation and process control instruments, Industrial Valves and Solar Power Systems under single platform.

KLEEV USA INC. design manufacture and supply world class instruments; and as a leading manufacturer of **INSTRUMENTATION & CONTROL INSTRUMENTS** for use in a broad range of industries like **OIL AND GAS, REFINERIES, CHEMICAL, HVAC, FOOD, ETC.** *Kleev products* feature an ever-expanding Instruments to stand for quality and reliability. The relationships with our customers allow us to develop products on market demand and keep moving to our success to being a leading established brand. Our ability to successfully diversify demonstrates managed approach to the marketplace continues to maintain stability of the company, therefore providing a basis for positioning ourselves as a leader in providing knowledgeable, prompt and courteous customer service.

KLEEV USA INC. is a global Manufacturer of state-of-the-art **PHOTOVOLTAIC (PV) MODULES AND COMPREHENSIVE SOLAR SOLUTIONS** which reduces carbon emission and supplies sustainable solar energy to the society with our vision to drive down cost of energy and use of fossil fuels to make our planet eco-friendly, green and clean by utilizing solar energy.

KLEEV USA INC. PV Panels are **IEC 61215/IEC 61730, TUV, CE** certified, to commit the 25 years of power output for enhancing the life of society by clean energy. Our manufacturing plant facilitates and equipped with own automatic intelligent robots.

Our commitment to continually combine and advance technology and engineering enables us to produce solutions that provide a competitive advantage for our customers. Our technologies and product innovations are designed to provide real benefits to help our customers grow, improve quality of life and meet today's environmental challenges.

We are committed to drive continued technological progress, setting new industry standards, maintaining a strong commitment to research and development and increasing the pace of our new product development and speed to market. Our approach includes extensive research on both emerging technology trends and key global market trends and customer challenges that enable us to prioritize our R&D efforts.

The KLEEV USA Products are distributed and managed in USA and all over the globe through a network of representatives and distributors. Exceptional functional and technical expertise coupled with extensive industry knowledge, committed to provide you with accurate and reliable field instrumentation products ensuring you get Reliable, Accurate and Quality products and services every time.

Visit our online product data sheets for detailed Product information, of all our trusted and reliable products and services at [www.kleevusa.com](http://www.kleevusa.com)

# PRESSURE / DIFFERENTIAL TRANSMITTER

Process Industry with  
HART® -Communication

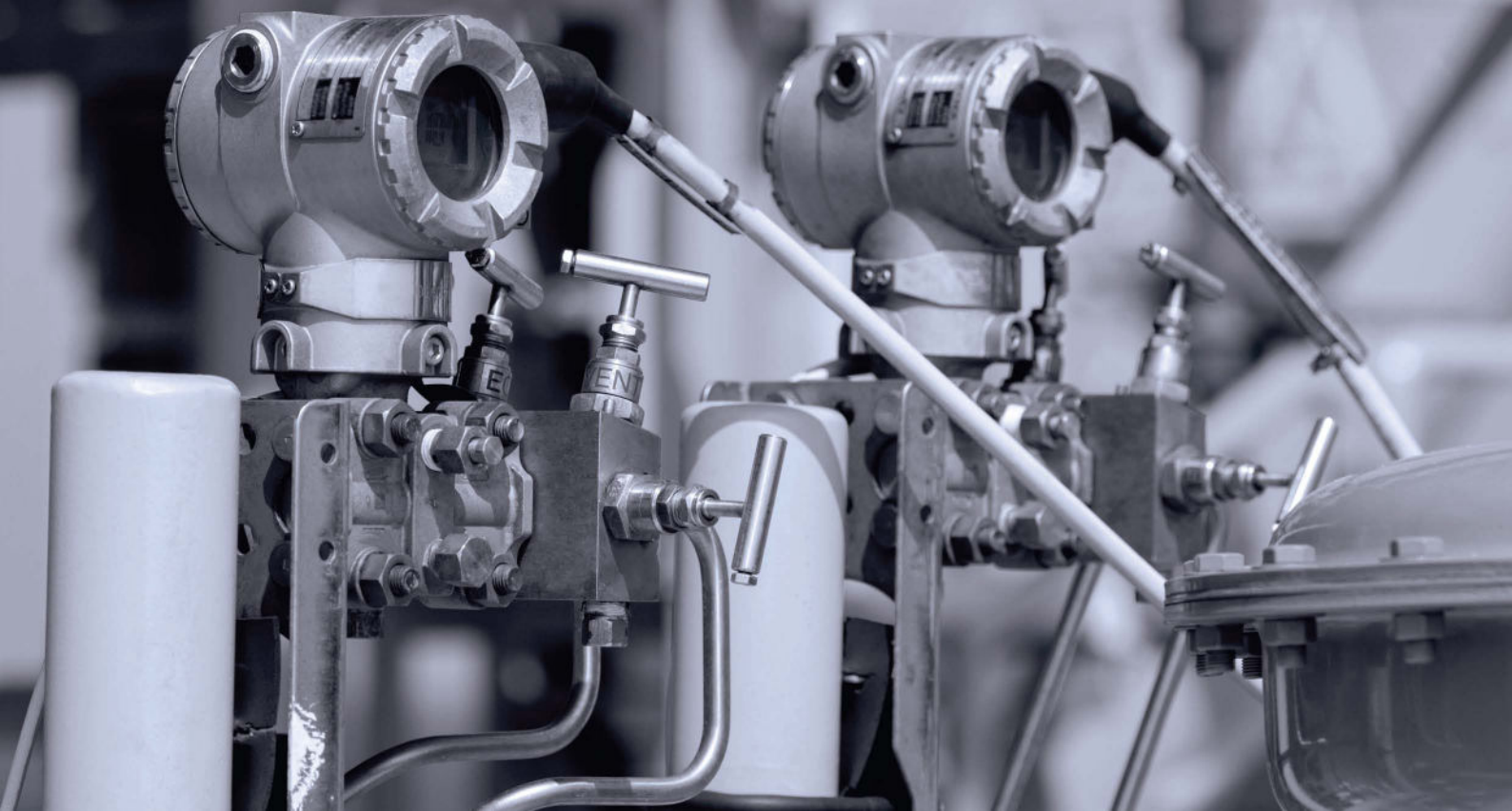
Accuracy according to IEC 60770: 0.1 % FSO

The Pressure / Differential Transmitter has been especially designed for the process industry and can be used for Pressure / Differential Transmitter, level measurement of closed, pressurized tanks, pump or filter controlling, flow measurement pipes.

Another attribute is the possibility to switch the output signal from linear to square root extraction by what the flow rate of the medium can be issued.

Preferred areas of use are:

- Oil and Gas Industry
- Power Generation
- Chemical and Petrochemical Industry
- Food and Beverage
- Paper Industry





PRESSURE / DIFFERENTIAL TRANSMITTER / DIGITAL PRESSURE GAUGE

Product	Differential Pressure Transmitter
Model	KDLT
Sensing	Direct Digital Capacitance Sensing
High Precision Performance	0.075%, Ultra Performance: 0.03%
Stability Standard	± 0.15% of URL - Guaranteed for 7 Years
High Performance	± 0.2% of URL - Guaranteed for 12 Years
Over Pressure	Support DD, EDDL and FDT/DTM



Product	Pressure Transmitter
Model	KPT
Precision	0.075% of Span for all ranges
Rangeability	40:1 for all models
Stability	± 0.15% of URL - Guaranteed for 5 Years
Over Pressure	7,500 PSI

Product	Pressure Transmitters
Model	K310 / K320
Range	Vacuum to 2200 bar
Long Term Drift	0.25% FS/YR (non-cumulative)
Wetted Parts	17-4 PH Stainless Steel
Supply Voltage	8-30 Vdc
Output (2-wire)	4-20 mA / 0-10 V / 1-5 V



Type	Digital Gauge
Model	KDG
Nominal Size (mm)	100
Mounting	Bottom
Pressure Port	1/4" NPT (1000 Bar)
Wetted Parts	AISI 316L SS
Accuracy	±0.025% to ±0.5, 0.25, 0.05, 0.025% F.S.
Range	Up to 2500 Bar
Display	6 full digit LCD

# PRESSURE / DIFFERENTIAL SWITCHES

**Adjustable Deadband**  
KCN1



**Low Diff. Set Point**  
KPS-23



**Below Type Industrial**  
KUT



Type	Adjustable Deadband	Low Diff. Set Point	Below Type Industrial
Model	KCN1	KPS-23	KUT
Connection	3/8", 1/4", 1/2" BSP / NPT (M)	1/4" NPT (F) (Side)	1/4" NPT (F)
Wetted Parts	AISI 316 SS	Aluminium Pressure Die Cast	Steel (Plated) With Plastic Cover
Switch	1 SPDT		
Switch Rating	15 A, 250 VAC, 0.4 A, 110 VDC	5 A, 125 / 250 VAC	15 A, 250 VAC, 0.4 A, 110 VDC
Range	-1 to 40 Bar	0.17 to 5.17 Bar	0 to 30 Bar
Enclosure Protection	W/P to IP 66	Enclosure IP 65 / IP 67	IP 32



## DIFFERENTIAL PRESSURE GAUGES / CALIBRATION HAND PUMP

**Double Diaphragm**  
KAQ



**Diaphragm / Bellow**  
KDIS



**Below Type Industrial**  
KBF



Type	Double Diaphragm	Diaphragm / Bellow	Piston Operated
Model	KAQ	KDIS	KBF
Nominal Size (mm)	100 / 150		63 / 100 / 150
Mounting	Bottom / Back / Panel / Surface Mounting		Bottom / Back / Inline
Wetted Parts	AISI 316L SS / Monel 400 / Hastelloy C		316 SS / Teflon / Ceramic Magnet & SS Spring
Accuracy	±1%, ±1.6% F.S.	±1.5% F.S.	±2.0% F.S.
Range	Up to 40 Bar	0 to 1000 mmWC	Up to 200 Bar
Static Pressure	Up to 400 Bar	100 BAR	400 BAR
Protection	IP65	IP68	IP65
Switches	Magnetic Snap Action (230 V AC, 1 Amp.)(48 V DC, 0.5 Amp.) / Inductive Type (220 V AC, 0.4 Amp.)		

## PRESSURE PNEUMATIC INDICATING CONTROLLER TRANSMITTER



Type	Pneumatic Transmitter
Sensor Element	Bourdon Tube / Bellows
Range	0 to 50-0 to 700 kgf/cm <sup>2</sup> / 0.35-7 kgf/cm <sup>2</sup>
Process Connection	1/2" NPT or 1/4" NPT
Setting Range	0-100% F.S.
Action	PID
Output	0.2-1.0 kgf/cm <sup>2</sup> , 0 or 1.4 kgf/cm <sup>2</sup> (on-off, differential gap)
Enclosure	NEMA3, IEC, IP54

## PNEUMATIC / HYDRAULIC CALIBRATION HAND PUMP



Product	Hydraulic Calibration Hand Pump
Model	KHHP
Output Ranges	mmw.c. to 72 psi(g), -15 to 600 psi 0 to 10,000 psi (0 to 700 bar)
Process Connection	1/4" female NPT (quick fit)
Gage Connection	1/4" female NPT
Materials	Stainless Steel and Tempered Glass
Weight	3.5 lb (1.6 kg)

# PRESSURE GAUGES



**Stainless Steel**  
KAL / KAD



**Stainless Steel Solid Front**  
KAI



**Phenol Solid Case**  
KAE

Type	Stainless Steel	Solid Front	Phenol Solid Case
Model	KAL / KAD	KAI	KAE
Nominal Size (mm)	40 / 63 / 100 / 125 / 150 / 250	63 / 100 / 150	115 mm (4½")
Mounting	Bottom / Back / Panel / Surface		
Wetted Parts	AISI 316L SS / Monel 400		
Accuracy	±0.5% F.S. / ±1.6% F.S. / ANSI	±0.5% F.S. / ±1.6% F.S. For NS 63 mm	±0.5% F.S.
Range (Bar)	Up to 2100	Up to 2000	
Protection	IP67		



**SS - Brass Gauge**  
KAT



**Density Gauge**  
KATGD



**Contractor Gauge**  
KCNOG





**Diaphragm Type**  
KAP



**Capsule Gauge**  
KAF



**Test Gauge**  
KAR

Type	Diaphragm Type	Capsule Gauge	Test Gauge
Model	KAP	KAF	KAR
Nominal Size (mm)	100 / 150	63 / 100 / 125 / 150	100 / 150 / 250
Mounting	Bottom	Bottom / Back / Panel / Surface	
Wetted Parts	AISI 316L SS / Monel 400 / Hastelloy C	AISI 316L SS / Monel 400	
Accuracy	± 1.6% F.S.		± 0.25% F.S.
Range	-6000 to 6000 mm WC & -1 to 25 Bar	250 to 6000 mmWc	Up to 1000 Bar
Protection	IP67		IP65

Type	SS - Brass Gauge	Density Gauge	Contractor Gauge
Model	KAT	KATGD	KCNOG
Nominal Size (mm)	40 / 50 / 63 / 80 / 100		100 / 125 / 150 / 250
Mounting	Bottom / Back / Panel / Surface		Bottom
Wetted Parts	Copper Alloy		Brass Socket
Accuracy	± 1.6% F.S. & ± 2.5% F.S.		± 1.0% F.S.
Range	Up to 1000 Bar		Vacuum to 500 PSI / BAR
Protection	IP65		IP54

## DIAPHRAGM SEALS

Type	Screwed / Flange / "I" Type Diaphragm Seals
Flange as per	ANSI / ASA / DIN / JIS
Connection	Screwed / Flanged / "I" Section
Diaphragm Material (Bottom Flange)	AISI 316L SS / Monel 400 / Hastelloy C / Titanium / Tantalum etc.
Wetted Parts	AISI 316L SS / Monel 400 / Hastelloy C / Titanium / Tantalum etc.
Range	S06 = -1 to 0 / 0 to 70 Bar (Std.) S07 = 100 to 400 Bar -1 to 700 Bar



**Direct Coupled**  
KDB



**Flange "I" Section**  
KDI



**Direct Flanged Insert**  
KDJ



## PRESSURE GAUGE ACCESSORIES



**2 / 3 Way Gauge Cock**  
KEC



**Overload Protector**  
KED



**Pulsation Dampener**  
KEG



**Flushing Ring**  
KEE



**Syphon**  
KEH



**Cooling Tower**  
KEB

ACCESSORIES	
Connection	1/4" to 1"
Working Temperature	-20 to 120° C Up to 250° C
Working Pressure	up to 700 Bar
Material of Construction	Brass / AISI 304 SS / AISI 316 SS / AISI 316L SS / Monel 400 / Hastelloy C / Tantalum / Inconel 625



Product	Flushing Ring	Syphon	Cooling Tower
Model	KEE	KEH	KEB
Type	Raised / Flat Face	Coil, Pigtail & "U" type	Perforated, FIN & Capillary
Connection	1/4" to 1/2" NPT (F)		
Material of Construction	Brass / AISI 304 SS / AISI 316 SS / AISI 316L SS / Monel 400 / Carbon Steel / Hastelloy C / Tantalum		

## MANIFOLDS & FITTINGS

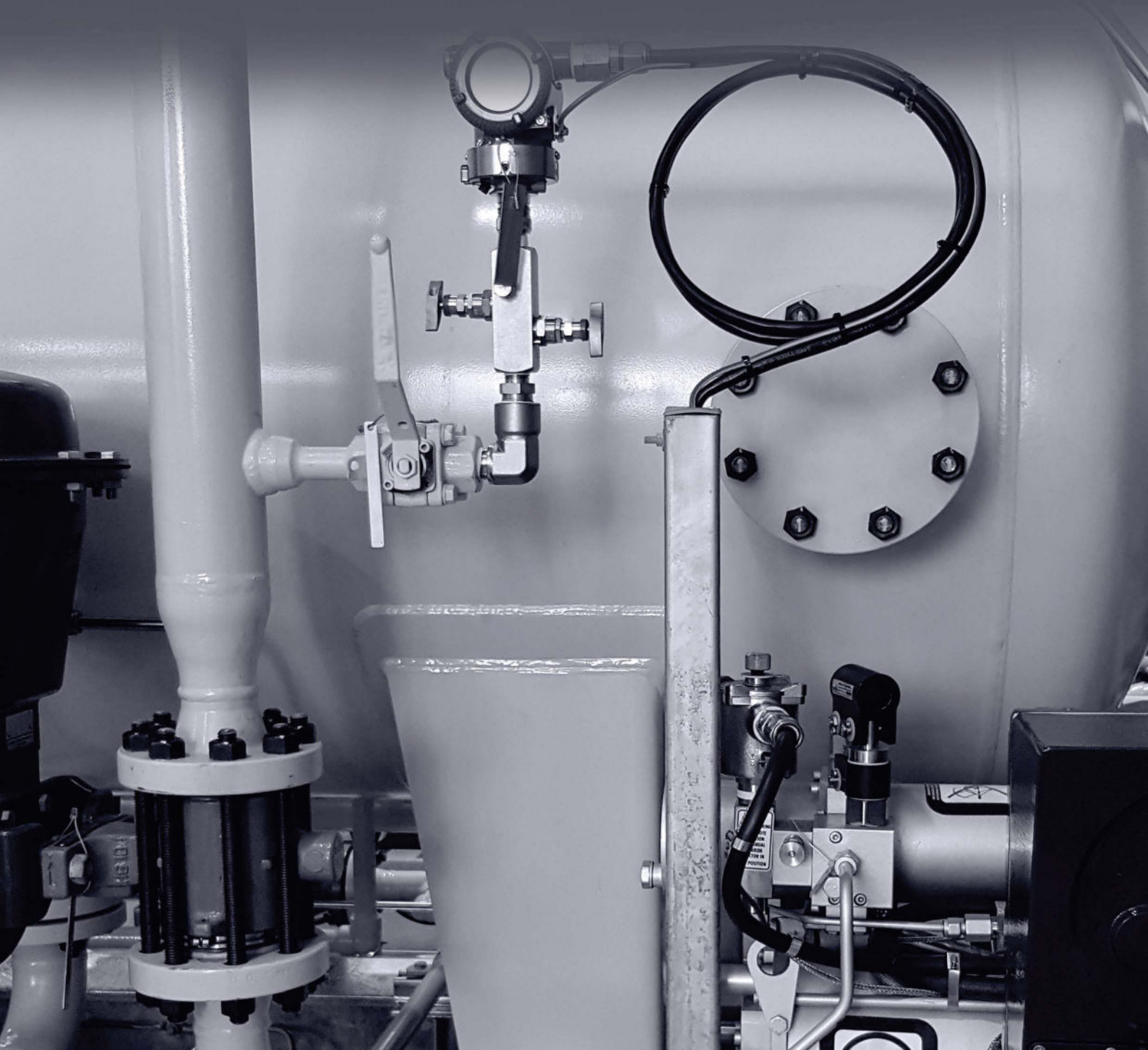
Kleev Instrumentations Valves and Manifolds are designed to protect life for the sophisticate and costly instruments. Used in complex plants needing installation according to certain carefully laid down safeguards for the measurement of pressure, level, flow and critical measuring applications. A wide range of size and configurations leading to flexibility of installation, reliability in trouble free services with minimum maintenance.

### Features:

- All types of valves have a self centering **needle non rotating** on the valve seat.
- Alternative seating to choose for every application requiring **bubble tight shut off**.
- Shroud (dust cover) with colour identification,  
Blue - **ISOLATE**  
Green - **EQUALIZE**  
Red - **DRAIN / VENT**
- Handle options: T bar metal or circular plastic.
- Mounting bracket for **2" NB pipe mounting**.

### Application:

Produced under rigid codes of instrumentation industry and Quality Assurance standard **BS 5770 / EN 29002 / ISO 9001:2000** for high pressure use to **withstand repeated open /close operations** essential to critical application.



## MANIFOLDS



**Two Valve Manifold**  
K2VT



**Three Valve Manifold**  
K3VT



**Five Valve Manifold**  
K5VR

Product	Two Valve Manifold	Three Valve Manifold	Five Valve Manifold
Model	K2VH, K2VT, K2VA, K2VTF, K2VS, K2VM	K3VQ, K3VT, K3VH, K3VCN	K5VA, K5VG, K5VD, K5VQ, K5VV, K5VR
Process Side	1/2" NPT (F)	Flanged	1/2" NPT (F)
Instrument Side	1/2" NPT (F)	Flanged	1/2" NPT (F)
Vent / Test	1/4" NPT (F)		
Material of Construction	AISI 304 SS / AISI 316 SS / AISI 316L SS / Monel 400 / Inconel 625 / Hastelloy "C"		
Pressure Class	6000 PSI / 10000 PSI		

## FITTINGS



**Union Elbow**  
KEU



**Female Branch Tee**  
KTFB



**Union**  
KUS



FITTINGS	
Size	1/8" to 1" & 3 mm to 100 mm
Vent / Test	With Twin Ferrules & Silver Plated Nuts
Material of Construction	AISI 316 SS / Monel 400 / Inconel 625
Pressure Class	6000 PSI / 10000 PSI



## ACCESSORIES

Product	Universal Input Transducer Cum Controller
Model	KSV-8
Input	mA, V, mV & RTD selected by software
Auxiliary power supply for sensor	24V DC @ 30 mA & 12V DC @ 60 mA
Alarm output	2 Relay outputs (Others as option)
Accuracy	0.3% F.S. $\pm 1$ Digit
Display	4 Digit dual display
Power Supply	85V-265V AC (other as Option)
Dimension	48 * 96 * 100 (H x W x D)
Protection class	IP67
Enclosure	ABS Plastic



Product	Current to Pressure Transducer ( I/P Controller )
Model	KIP
Input Signal	4 to 20 mA
Input Impedance	IP-42: 180 ohms; IP-43 and IP-44: 220 $\Omega$
Linearity	$< \pm 0.75\%$ of span
Hysteresis	$< 1\%$ of span
Repeatability	$< 0.5\%$ of span
Pressure Connections	1/4" female NPT
Electrical Connection	1/2" female NPT



Product	Air Filter Regulator
Model	KAFR
Max. Supply Pressure	250 psig (1700 kPa)
Temperature Limit	0 to 160° F (-18 to 71° C)
Sensitivity	1" (2.5 cm) of water
Consumption	$< 6$ SCFH (0.17 m <sup>3</sup> /hr)
Flow Capacity	20 SCFM (33 m <sup>3</sup> /hr) @ 100 psig (700 kPa) supply
Exhaust Capacity	0.1 SCFM (0.17 m <sup>3</sup> /hr) with downstream pressure 5 psig (35 kPa) above set point
Process Connection	1/4" female NPT
Ex. Proof	Ex ia IIC T6
Protection Grade	IP67



## ENCLOSURE

Stainless Steel



GRP



Product	Enclosures
Enclosures	Stainless Steel / GRP
Material of Connection	304 SS / 316 SS / 316L SS / Polycarbonate / Cast Aluminium
IP Standard	IP20, IP55, IP65, IP66, NEMA 4
Sizes	Customized
Optional Hazardous Area	ATEX
Hardness	1 mm, 1.5 mm, 2 mm

**Cable Tray**

Kleev FRP Cable Trays are manufactured on highly sophisticated pultrusion plant with industry standards for non-metallic cable tray and are widely used in chemical process industries where corrosion is the main problem.

Kleev Pultruded FRP Gratings are panels with open space, assembled through specially designed process with "I" or "T" shaped bearing bars and interlocked with solid grooved rods and notch bar which are all pultruded. Resin System consists of Isophthalic / Vinylester with FR or Non FR properties. Pultruded "I" or "T" – section profiles are designed & manufactured, for the relevant load bearing capacities. These are then interlocked with solid grooved rods and notch bars. The resin and other additives / retardants used in the manufacturing are based on the applications & site conditions / requirements.

# TEMPERATURE TRANSMITTER

Industry-leading temperature transmitter delivers unmatched field reliability and innovative process measurement solutions

- Superior accuracy and stability
- Dual and single sensor capability with universal sensor inputs (RTD, T/C, mV, ohms)
- Comprehensive sensor and process diagnostics offering
- IEC 61508 safety certification
- Dual-compartment housing
- Large LCD display

The industry-leading KleeV Single Point temperature transmitter delivers unmatched field reliability and innovative process measurement solutions and diagnostics.

- Dual and Single Sensor Input Capabilities
- Transmitter-Sensor Matching
- Integral Transient Protector
- IEC 61508 Safety Certificate of Compliance
- Advanced Sensor and Process Diagnostics
- Large, Easy to Read LCD Display
- "Assemble to Sensor" option

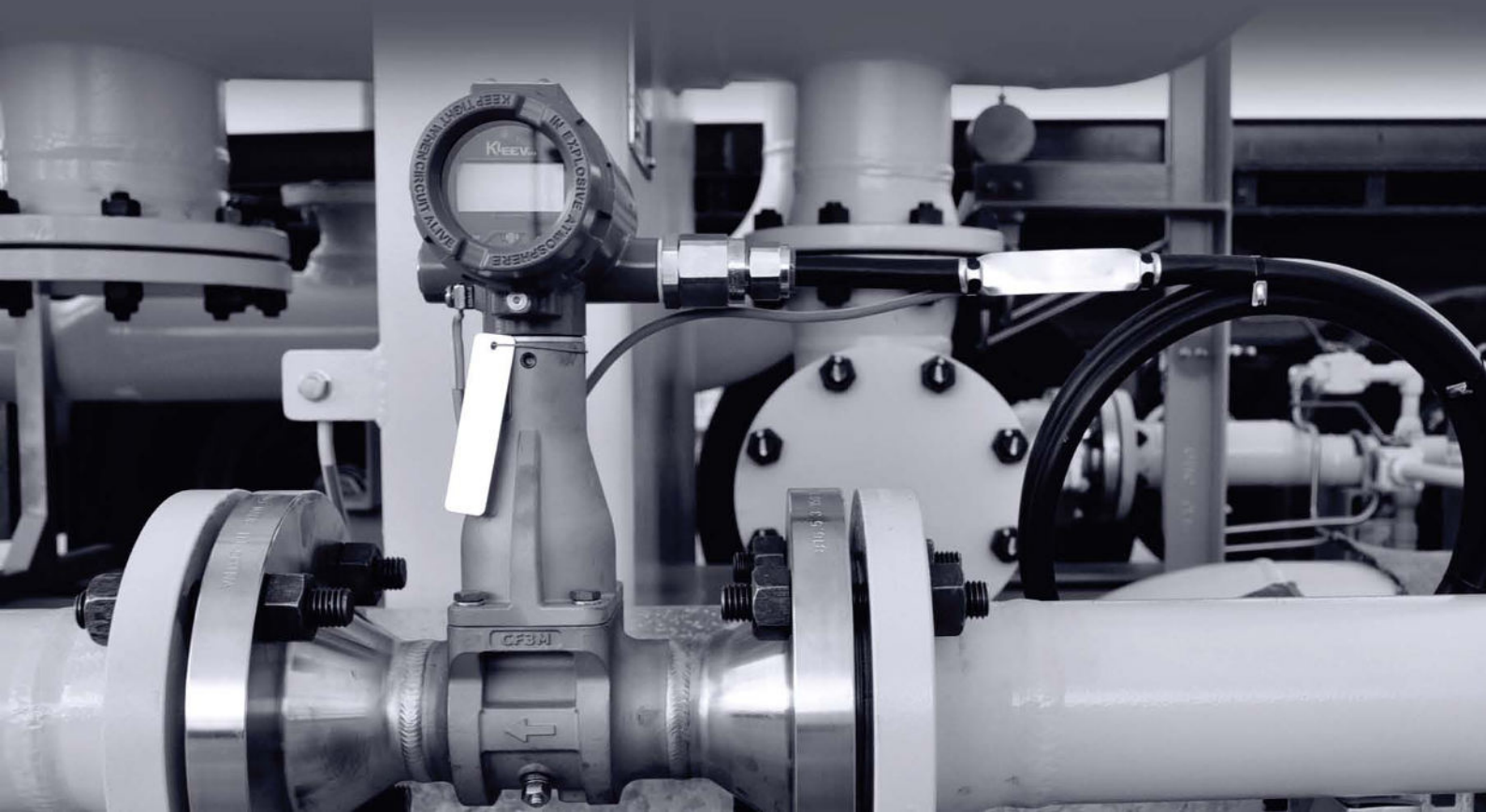
## Functional Specifications:

### Inputs

Universal Inputs (RTD/Pt1000/TC/0-10V/0-5V/4-20 mA)

### Output

2-wire device with either 4–20 mA/HART, linear with temperature or input, or completely digital output with HART communication.





# TEMPERATURE TRANSMITTER

**Smart Temperature Transmitter**  
KTT-01



**Head / Din Rail Mounted  
Temperature Transmitters**  
KEH



**Carbon Temperature Transmitter**  
KCDT



**DC Voltage Isolating Transducer**  
KTX-205



Product	Smart Temperature Transmitter	Analog Adjustable 2-wire Transmitters	DC Voltage Isolating Transducer
Model	KTT-01	KEH	KTX-205
Type	Field Mounted	Head Mountable	Analog signal Isolator
Material of Construction	Head Die-cast + Aluminum / AISI 316 SS		-
Input	Thermocouple / RTD		DC Voltage
Output	4-20 mA / 20-4 mA	4-20 mA	4-20 mA DC
Zero/Span Adjustment	Potentiometer		-
Galvanic Isolation	1500 VAC, 1 min.	-	-
Accuracy	(±0.1%) of Span	(±0.15%) of Span RTD (±0.15%) to 1% of Span thermocouple	±0.1%.
Power Supply	24 VDC		90 to 270 V AC, 50/60 Hz. Optionally 20 to 70 VDC.
Operating Temperature	-		0 to 55° C
Hazardous Area	ATEX, UL		Safe Area

## TEMPERATURE GAUGES

### BIMETAL DIAL THERMOMETER

The Bimetal thermometer employs a bimetal strip in the form of helix (it works on the principle of thermal expansion - two metals having different coefficient of expansions are joined to form a bimetal. The resultant expansion of bimetal is proportional to temperature). Bimetal dial thermometers are simple in construction, yet rugged. They are used for measurement of temperature in most of the industrial applications. They are 0°C to 600°C. With rigid stem having bottom or back entry. It can also be offered in the range of (-) 50 offered in every angle rotatable construction.

### GAS FILLED DIAL THERMOMETER

Gas filled temperature gauge overcomes most of the limitations of all other members. It is offered in a very wide temperature i.e. (-)200°C to 800°C. Practically any stem length can be offered and capillary length as long as 25 Mtr., without any loss of accuracy. Inert, non-hazardous, non-toxic nature of the filled system makes it virtually ideal choice of cross section of industries.

### INDICATING TEMPERATURE SWITCH

Indicating temperature switch combines indication with switching (in order to make or break the associated electrical circuit). Can be offered with contact assembly as well as micro switch (as a combination of switch and movement)

### LIQUID FILLED DIAL THERMOMETER

Liquid filled system based on liquid (other than mercury) expansion principle is used for measuring temperature ranging from -30°C to 250°C. It has faster response and the same is available in rigid stem as well as capillary type for remote sensing. Every angle type can be offered in all SS construction. Generally used where mercury type thermometer is not used in industries such as Building Industries Food, Pharmaceutical etc. The main advantage is its minimum immersion length required for sensing (as low as 30mm suffices for proper sensing thereby making it ideal for installing in lower line sizes).



## TEMPERATURE GAUGES

**Capillary Gauge**  
KCA



**Stainless Steel Gauge**  
KCB



**Thermometer**  
KIT



Product	Capillary Gauge	Stainless Steel Gauge	Thermometer
Model	KCA	KCB	KIT
Type	Gas Filled	Bimetal	Adjustable Angle Stem Liquid Glass
Mounting	Back / Bottom Capillary / Rigid Stem	Back / Bottom / Every Angle	
Nominal Size (mm)	100 / 125 / 150 / 250	40 / 50 / 63 / 80 / 100 / 125 / 150	9" Scale
Wetted Parts	AISI 316 SS		Tapered Cast Aluminum
Filling Fluid	Dry / Liquid Filled		Graphite
Stem Length	25 Mtrs.	600 mm	3 1/2" & 6"
Range	-80 to 650° C	-80 to 600° C	-40° to 550° F (-40° to 300° C)
Accuracy	Class 1 as per EN 13190		1%
Protection	IP67		IP54



# THERMOWELL

## Design procedure as per PTC 19.3:

The purpose of this design procedure is to enable the user to determine if a wall selected for thermometry considerations is strong enough to withstand specific application conditions of temperature, pressure, velocity and vibration. Well failures are caused by forces imposed by static pressure, steady state flow and vibration. This design procedure does not allow for effects due to corrosion or erosion.

## THERMOWELL TERMINOLOGY

### Process Connection

External means to connect thermowell to process system. Wells can be threaded, bolted (to matching flange), clamped, or welded in place.

### Instrument Connection

Internal threads to connect temperature instrument to thermowell.

### “U” Length

Length of thermowell immersed into process system. Measured from the base of the process connection to the end tip of the well.

## MANUFACTURING TOLERANCE FOR BAR STOCK THERMOWELLS

### Spanner Slots

+0.00 / -0.50 mm

### Tip Thickness

+1.0 mm / -0.0 mm

### Major / Minor Diameter

±0.25 mm

### Bore Diameter

+0.20 mm

### “U” length

±1.00 mm up to 1000 mm

±5.00 mm above 1000 mm (Built-in bar stock type)

### Head Size

±0.20 mm for Round Head

±0.20 mm for Hexagonal Head





**Bar Stock - Flanged**  
KW2



**Weld Socket Type**  
KW7



**Lagging Extension**  
KITW

Product	Bar Stock - Flanged	Weld Socket Type	Lagging Extension
Model	KW2	KW7	KITW
Type	Straight / Straight / Reduced Tip / Partial Taper / Full Taper		Standard
Connection	1/2" to 4" Screwed & Flange		3/4" NPT (M)
Material Construction	AISI 304 SS / AISI 316 SS / AISI 316L SS / Monel 400 / Inconel 625 / Nickel / Hastelloy C / Titanium etc.		Brass / AISI 304 SS / AISI 316 SS

# RESISTANCE TEMPERATURE DETECTORS & THERMOCOUPLE

In general the reference standards used in manufacturing of the sensors are:  
**RTD: IEC - 751 / DIN 43760 & Thermocouple: ANSIMEC - 96.1 / IEC 587.2**

The different types of sensors manufactured are:  
**RTD: Pt 100, Pt 500, Pt 1000 & Cu 53**  
**Thermocouple: J, K, T, E, R, S, B & N**

The element types manufactured are the commonly requested **Simplex & Duplex type.**

The sensors are manufactured with 2 types of insulation:  
Ceramic beads [beaded Type]  
Mineral Insulation [M. I. Type]

The enclosures are standard weatherproof [IP-66/67], Flameproof, Gr. IIA, IIB, **Gas Group IIA, IIB and IIC, Die-Cast Aluminum** and can also be provided in materials like **SS 304, SS 316, C. I.** etc.

The sheath materials which are provided as a standard are **SS 310, SS 316, SS 446, Inconel 600, Incolloy 800** etc.



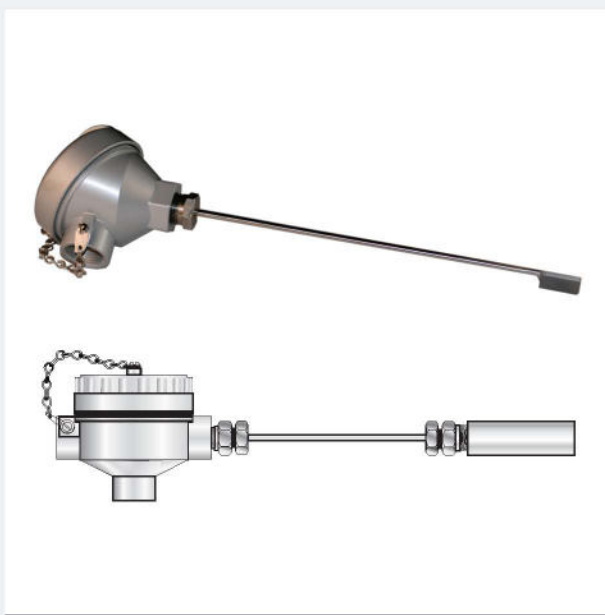


## RESISTANCE TEMPERATURE DETECTORS &amp; THERMOCOUPLE

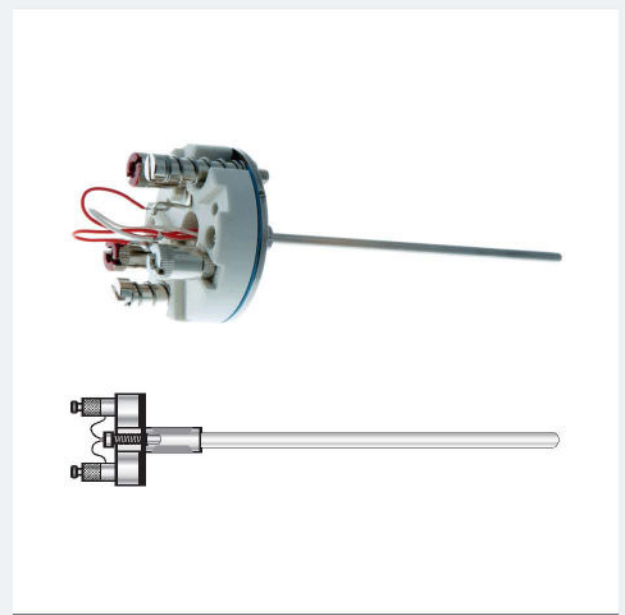
Product	RTD	RTD	Thermocouple
Model	KR01	KR04	KT05
Type	Assembly with Fixed / Adjustable & N-U-N Connection	Assembly with Weld Pad (Skin Temperature)	Assembly with Terminal Block / SS Base Plate for TT Mounting
Enclosure Material	Die Cast Aluminum / 316 SS		-
Sheath Material	AISI 316 SS		
Configuration	3 Wire System	3 or 4 Wire System	Simplex / Duplex
Enclosure Certified	ATEX, UL		-



**RTD**  
KR01



**RTD**  
KR04



**THERMOCOUPLE**  
KT05

## LEVEL TRANSMITTER / GAUGES

Level Indicators / Transmitter are devices used in the measurement of level of fluids at various industrial applications. These devices are used to determine the level of liquid in tanks, drums, pressure vessels etc.

There are many level indicators to suit the needs of different applications. Normally, fluids are used in many forms in highly commercial industries. Without proper devices it will be very difficult to find the quantity and level of fluid stored. Also, in certain situations where the nature of fluid is dangerous or the place in which the liquid is stored is of such a nature that it is manually impossible to find the level, then the level indicators are of utmost importance.

Depending on the type of application used, the type of level indicator should be selected. For example, in the process industry, tubular level indicators are used for better visual liquid level indication. If it is for non-contact type level measurement, then **RADAR TYPE INDICATORS OR ULTRASONIC TYPE INDICATORS** are to be used.

There are many different types of level indicators, each with its own application.

- **TRANSPARENT LEVEL INDICATORS** are highly useful in chemical industries and petrochemical fertilizers. As the fluid is stored in high pressure and high temperature, the transparent level indicator is very useful to find the fluid level.
- **REFLEX LEVEL INDICATORS** are for applications that involve high temperature, high pressure and use of corrosive fluids. The colorless fluid used in this apparatus gives better clarity to level indication.
- **MAGNETIC LEVEL INDICATORS** are red followers that need magnetic level indicators. Cylindrical floats and powerful magnets are used to find the level of the fluid. The float movement is followed by magnetic capsules and thus, the level is indicated. This type of indicator has good visibility and is absolutely safe to use as it contains non-fragile metal chamber.

Some other level indicators for reference are tubular level indicators, float and board level indicators, sight flow indicators, window type sight flow indicators, manometers and bi-color indicators. Some of the level indicators are provided with various features, such as a built-in controller, continuous output measurement and adjustable alarm switches.





## LEVEL TRANSMITTER

Product	Displacer Level Transmitter
Model	KDLT
Electronics	Fisher, Rosemount - Emersons
Application	Liquid Level, Specific, Gravity or Interface Level
Displacer Length	100 mm to 4.5 meter
Min. Differential Specific Gravity	0.3 to 1.2 & 0.5
Accuracy	+/- 0.5% of full scale (better on request)
Material Of Construction	Compatible material of construction available for different process media. Can replace Fisher / Masoneilin / Yamatake / Motoyama / Parcol / Eckard Transmitter, one to one...



Type	Liquid Level Indicating Controller
Measuring Range	0 up to 3000 mm
Seal Diaphragm	SUS316L, Hastelloy C
Float	SUS316L, Hastelloy C
Scale Length	150 mm
Pointers	PV: Red, SP: Green
Remote Setting	3-15 PSI
Setting Range	0-100% F.S.

Product	Magnetic Level Gauge (3 in 1)
Model	KMLG
With	Transmitter & Switches
Display	Clearly Visible Optical
Measuring Range (mm)	500-3500
Process Pressure	Max. 60 bar
Switch Rating	250 V AC12; 2.5 A / 220 V DC13; 0.3 A
Protection Enclosure	IP65
Features (Optional)	Switches / Transmitter, ATEX, FM, UL
Output	4-20 mA / HART
Switch	SPDT, SPST, DPDT





## LEVEL TRANSMITTER

Product	Ultrasonic Level Transmitter
Model	KVRPWCS-73
For Media	Liquid / Solid
Ledge	0 to 25 Mtrs. for liquid / 50 Mtrs. for Solid
Indicator	Digital Display
Working Temperature	-40 to 70° C
Working Pressure	-0.02 to 0.1 MPa
Output	4 to 20 mA / HART
Power Supply	24 V DC ±10%
Ex. Proof	Ex ia IIB T6
Protection Grade	IP66



Product	Guided Wave Radar Level Transmitter
Model	KVRPWRD-31
Working Temperature	-40 to 250° C
Working Pressure	-0.1 to 2 Mpa
Cables	Rigid Rod / Coaxial Cable
MOC	316 SS / Monel 400 / Hastelloy C
Output	4 to 20 mA / HART
Power Supply	24 V DC
Ex. Proof	Ex ia IIC T6 Gb
Protection Grade	IP67



Product	Non-Contact Radar Level Transmitter
Model	KVRPWRD-93
Working Temperature	-40 to 150° C
Working Pressure	ATM
Range	0.5 to 40 Meter
Application	Level Radar for Distance, Level and Volume of Liquids, Slurries and Solids
Output	4 to 20 mA
Power Supply	24 V DC
Ex. Proof	Ex ia IIC T6
Protection Grade	IP67



## LEVEL GAUGES

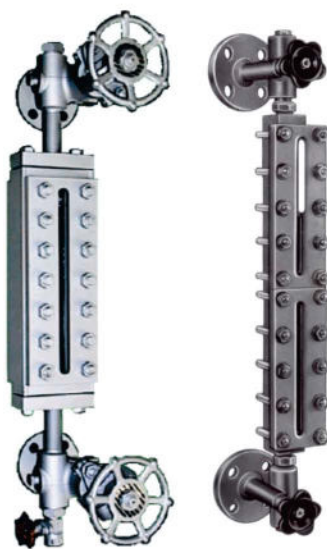


Product	Float & Board Level Indicator
Model	KLH
Range	500 to 30000 mm
Material of Float	AISI 316 SS / Monel 400 / Hastelloy C
Material of Board	Aluminum with Powder Coated
Operating Temperature	100° C
Operating Pressure	5 bar

Product	Magnetic Level Indicator	Reflex Level Gauge	Transparent Level Gauge
Model	KLD	KLE	KLF
C-C Distance (mm)	Up to 6000	350 to 3500	
Process Connection	Screwed / Flanged		
Operating Temperature	-20 to 120° C	250° C	
Operating Pressure	50 bar	40 bar	
Sight Glass	-	Toughened Glass	
Material of Float	AISI 316 SS / 316L SS / Monel 400 / Titanium	-	
Tube Material Of Construction	AISI 304 SS / 316 SS / 316L SS / Teflon, PVD	Carbon Steel / 304 SS / 316 SS / Duplex Taper	



**Magnetic Level Indicator**  
KLD



**Reflex Level Gauge**  
KLE



**Transparent Level Gauge**  
KLF

# LEVEL SWITCHES

**Side Mounted Level Switch**  
KLA



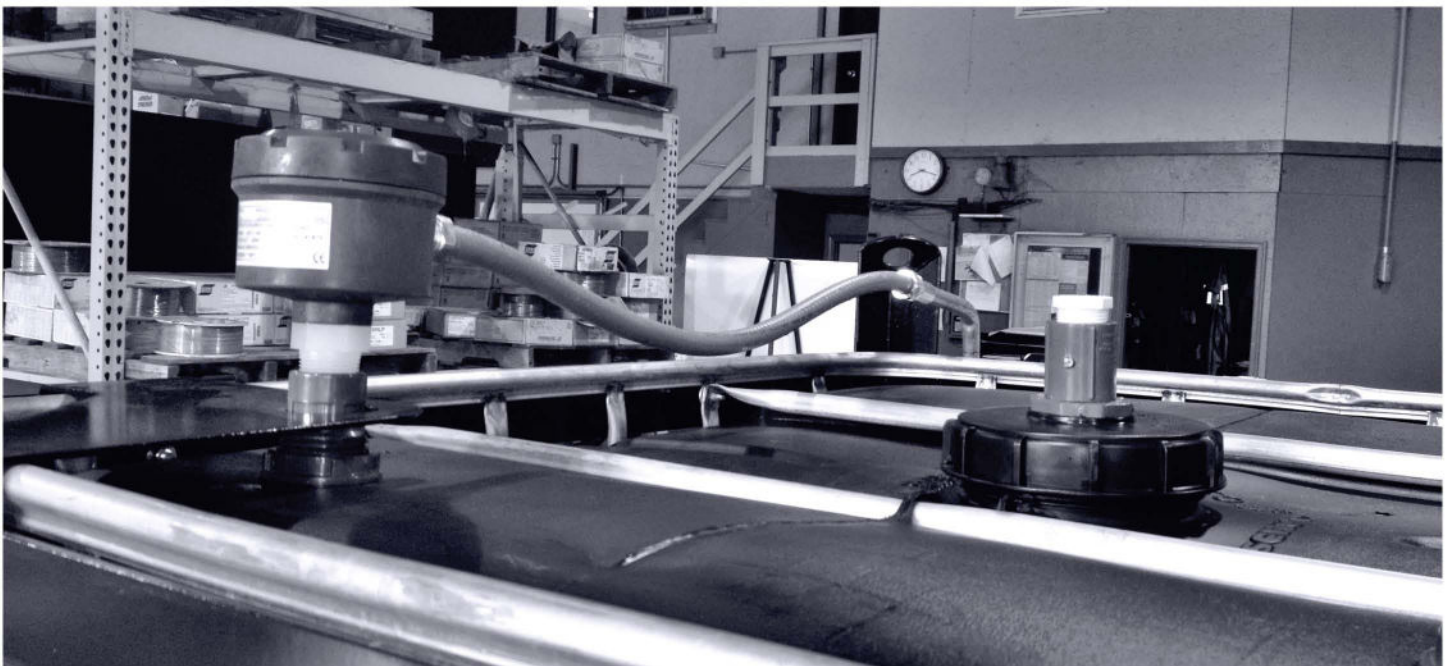
**Miniature Level Switch**  
KLB



**Top Mounted Level**  
KLC



Product	Side Mounted Level Switch	Miniature Level Switch	Top Mounted Level Switch
Model	KLA	KLB	KLC
Material of Float	AISI 316 SS	PP / AISI 316 SS	Wetted Parts: AISI 316 SS
Operating Temperature	-10° C to 150° C	100° C	
Operating Pressure	18 bar	10 bar	18 bar
Switch Rating	5A / 250 VAC	0.5A / 230 VAC	0.5 A / 250 VAC
Protection Enclosure	IP 65		
Housing Material	Aluminum Alloy Base & Cover, 316 SS	-	Aluminum Alloy Base & Cover, 316 SS
Housing Certification	ATEX, UL, FM		





## LEVEL SWITCHES

Product	Displacer Level Switch
Model	KLS
Range	Up to 30 Meters
Pressure Range	Up to 100 bar
Temperature	450° C
Switch Rating	SPDT / DPDT, 5AMP / 230 VAC
Attraction Sleeve	410 Series SS
Enclosing Tube	304 Stainless Steel
Electrical Connection	3/4" NPT (Single cable entry standard, others optional)
Housing Material	Aluminum Alloy Base & Cover, 316 SS
Housing Certification	ATEX, UL, FM



Product	Cable Float Level Switch
Model	KLZ
Material of Float	Polypropylene
Operating Temperature	60° C
Operating Pressure	4 bar
Switch Rating	16A / 250 VAC
Length	5 to 60 meters



**Cable Float Level Switch**  
KLZ

Product	External Chamber
Model	KLY
C-C Distance (mm)	200 to 3000
Chamber	CS, AISI 304 SS, AISI 316 SS / Monel 400 / Inconel 625 / Hastelloy C
Connection	Flanged / Screwed / Welded
Drain & Vent	Screwed / Flanged
Pressure up to	6000 / 10000 psi



**External Chamber**  
KLY

# FLOW TRANSMITTER

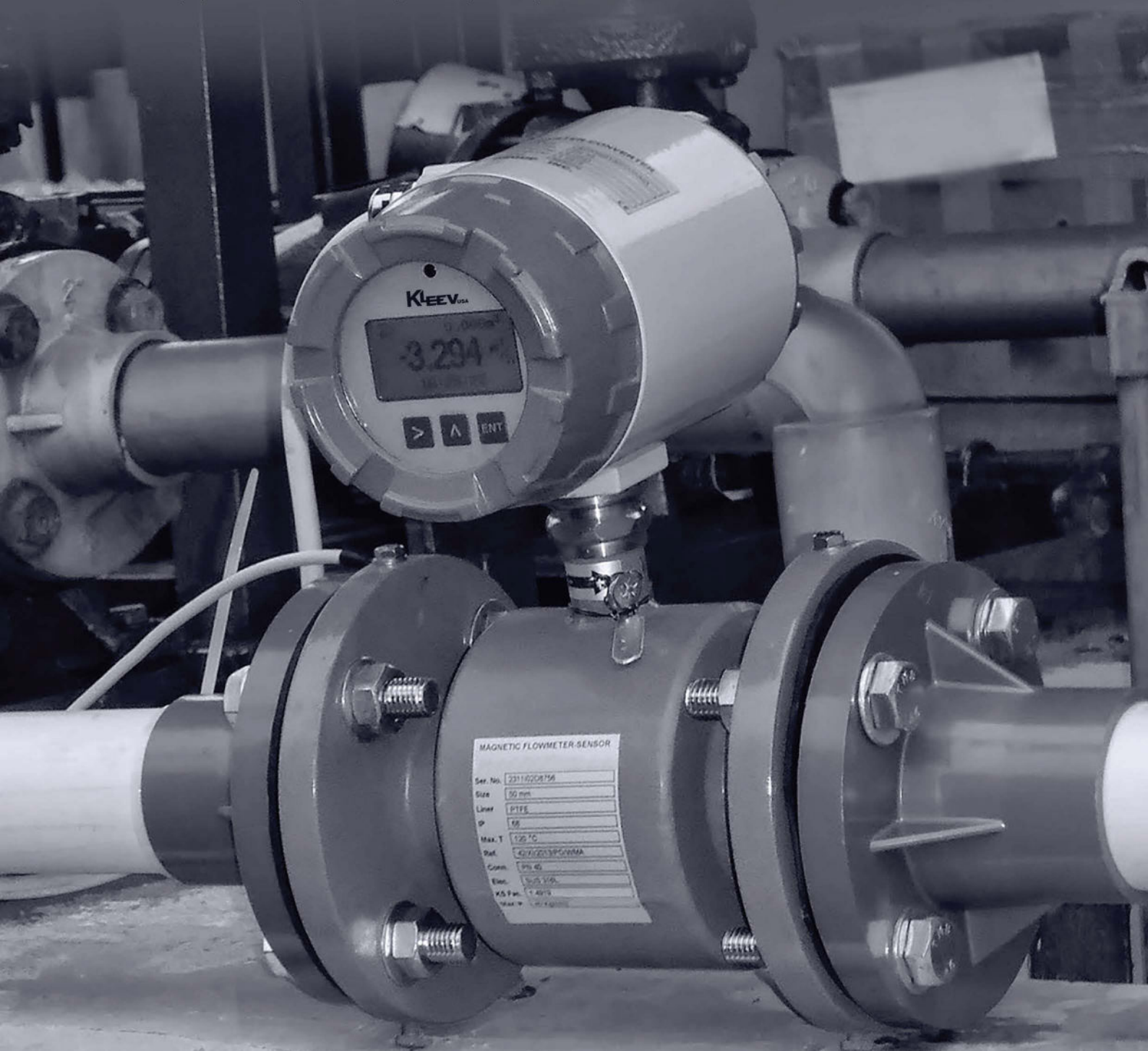
A flow meter is a device used to measure the flow rate or quantity of a gas or liquid moving through a pipe. Flow measurement applications are very diverse and each situation has its own constraints and engineering requirements. Flow meters are referred to by many names, such as flow gauge, flow indicator, liquid meter, etc. depending on the particular industry; however the function, to measure flow, remains the same.

## Why do I need a KleeV flow meter?

You might not! KleeV flow meters are used to provide accurate monitoring and/or flow control. Some industrial applications require precise calculation of quantity, such as servo-valve development for the aerospace industry. On the other hand, an application to measure water flow to a vineyard may only require a measurement accuracy of 5% to 10%.

## What are the various types of Flow Meters?

- Electromagnetic
- Ultrasonic
- Turbine, Propeller, and Paddle Wheel or Pelton Wheel
- Vortex Shedding and Sonar
- Target and Vane
- Variable Area and Rotameter
- Orifice Plate, Open Channel, Flow Nozzle, Laminar, Venturi, and Pitot Tube



## FLOW TRANSMITTER

Type	Electromagnetic Flow Meter
Model	KLDG
Nominal Size	6 mm to 2000 mm
Electrodes Material	316 SS / Hastelloy C / Tantalum Platinum / Gold Plated, Platinum / Rhodium
Batching	Controller Option
Optional	Battery and GSM
Communication	HART / RS485 / Modbus
Liner Material	Hard Rubber / Neoprene / PTFE / PFA
Flow Rate	0.0305 to 10179 (m3/h)
Output	4 to 20 mA
Accuracy	±0.25% / ±0.5%
Ambient Temperature	-20 to 60° C
Operating Pressure	Up to 100 Bar
Display	4 full digit LCD



Product	Handheld Ultrasonic Flow Meter
Model	KTDS
Power Supply	90 ~ 230 VAC
Pipe Diameters	15 mm to 6000 mm
Operate With	Clamp on Transducers
Display	4 x 16 English letters LCD
Repeatability	0.2%
Accuracy	±1%
Output	RS 232 Interface or 1 - Channel Isolated OCT
Data Logger	Internal
Battery Operation	NI-MH of over 12 H



## FLOW TRANSMITTER

Product	Vortex Flow Meter
Model	KLUGB
Nominal Dia. (mm)	25 to 300 (300 ~ 1500 Insert type)
Temperature	-40 to 350° C
Range	1:6 ~ 1:30
Material	304 SS / 316 SS / Monel 400
Accuracy	Class 1.0; 1.5; 2.5 (Insertion Type)
Power Supply	24VDC or Battery
Explosion Proof	Exd IA CT2-T5 / Exd CT2-T5
Protection Grade	IP65 / IP68



Product	Orifice Flange & Orifice Plates
Model	KFE-01
Type	Welding Neck & Slip-on
Facing	Raised Face & Ring Joint
Size	1" to 30"
Material	AISI 304 SS / 316 SS / 316L SS / Monel 400 / Hastelloy
Pressure Taps	Quantity: 2 (Standard)
Size	1/2", 3/4" (ANSI 300-600, 900, 1500, 2500)

Product	Sight Flow Indicator
Model	KKW
Wetted Materials	Window: Tempered Glass / Body: Bronze or 316 SS
Gasket	Buna-N, Fluoroelastomer or PTFE
Indicator	304 SS or 316 SS Flapper (360), ABS or 316 SS impeller (100 and 300), Tube Style with Threaded Connections & Flanged Connections
Temperature Limit	212°F (100°C)
Pressure Limit	230 psig (15.56 bar)



FLOW SWITCHES



Product	Flow Switch
Model	KFS-01
Wetted Materials	Bellow: Tin-Bronze; Vane: SS; Body: Forged Brass
Temperature Limits	230° F (110° C)
Pressure Limits	145 psig (10 bar)
Process Connection	1" NPT (M) or BSPT
Electrical Rating	10 A Res, 3 A Ind @ 250 VAC
Enclosure	Die-Cast Aluminum Alloy



Product	Acrylic Rotameter
Model	KACR
Block	Solid Acrylic Block
Line Size	6 mm to 80 NB
Measuring Span	1:10
Ranges	1 to 10 LPM to 1200 to 12000 LPH
Design	Heavy Duty Design With Full Visibility
Test Pressure	10 Kg/cm2
Accuracy	±2% of FS

Product	Glass Tube Rotameter
Model	KACR
Temperature Rating	150° C
Pressure Rating	10 Kg/cm2
Body	Metallic Powder Coated Body With Trent Acrylic Front Side
End Connection	1/2" NPT (F), 316 SS, Screwed Connection at Top & Bottom
Material Of Wetted Parts	CS / 304 SS / 316 SS / PP / PVC / Teflon as per type of fluid
Metering Tube	Borosilicate Tapered Glass Tube
Scale Length	50 to 60 mm
Accuracy	± 1% of FSR



# INDUSTRIAL BALL VALVES

<b>Product</b>	<b>Ball Valves</b>
Model	KBV
Type	Floating / Trunnion
Design Standard	ASEM 16.34, BS 5351, API 6D
MOC	Carbon Steel & Stainless Steel
Rating	ASME Class 150 to 2400 from PN16 to PN400
Size	From 1/4" to 36" over on request
Certified	6D / Fire Safe





## INDUSTRIAL VALVES

Product	3 & 4 Way Valves
Model	KBV-10
MOC	304 SS / 316 SS / Monel 400
Range	6000 PSI



**3 & 4 Way Valves**  
KBV-10

Product	Double Block & Bleed Ball Valves
Model	KDBBV
Type	Offshore Valve
Body & Ball	ASTM A182 Gr F60 / UNS32205
Seat	Peak
Stud & Nut M10 x 1.5	ASTM A453 Gr 660 Class A



**Double Block & Bleed Ball Valves**  
KDBBV

Product	Cryogenic Valves
Model	KCRV-001
Application	Ethylene, LPG, LNG, Hydrogen, Helium, Oxygen, Nitrogen and Argon
Temperature	Low Temperature Services Upto -46° C are Covered
Material Of Construction	Carbon Steel such as LCB and LCC Materials
Cryogenic Services	at -96° C are covered by Stainless Steel grades such as CF8M and CF8



# INDUSTRIAL GATE / GLOBE / CHECK VALVES



**Steel Gate Valve**  
KGV-01



**Steel Globe Valve**  
KGV-02



**Steel Check Valve**  
KCV-01

Product	Steel Gate Valve	Steel Globe Valve	Swing Check Valve
Model	KGV-01	KGV-02	KCV-01
Certified	API 600 / API 6D ISO 10434 / ISO 14313	BS 1873 / ASME B16.34	API 6D / ISO 14313
Inspection & Test	API 598 / API 6D / BS 1868		
Design	Full Port	Straight Pattern Body	Anti Rotation Disc
Size	2" to 24"	24"	Eyebold: 4" to 8"
Class	900# LB	150# to 900#	150# LB to 2500# LB
Other Details	Flexible Wedge, Fully Guided	Loose Disc, Choice of Plug or Ball	Renewable Seat Rings
	Choice of Solid or Split Wedge	Renewable Seat Ring	-
	Forged "T" Head Stem	Impact Hand Wheel for 10" & above	-



**Plug Valve**  
KPV-01



**Butterfly Valve**  
KBFV-01



**"Y" Strainers**  
KYS-01



**Forged Steel Gate Valve**  
KFGV-01



**Forged Steel Globe Valve**  
KFGV-02



**Forged Steel Check Valve**  
KFCV-01

Product	Forged Steel Gate Valve	Forged Steel Globe Valve	Forged Check Valve
Model	KFGV-01	KFGV-02	KFCV-01
Certified	API 602 / ASME B16.34		
Inspection & Test	API 598		
Size	3/8" to 2"		
Class	800# to 1500#		
Other Details	Face to Face, Manufacturer Standard, Flanges, ASME B16.10		
	Butt Welding Ends ASME / B16.25 / Socket-Welding ASME B16.11		
	Screwed Ends ASME B1.20.1		

Product	Plug Valve	Butterfly Valve	"Y" Strainers
Model	KPV-01	KBFV-01	KYS-01
Type	Cast Iron (Short Pattern)	Wafer & Flanged	-
Body, Cover & Gland	Cast Iron IS210 Gr. FG 220	Cast Iron / Carbon Steel / Stainless Steel	-
Stem	Mild Steel Nickel Plated	-	-
Gland Packing	Rubberised Asbestos	-	-
Flanged Ends	Class 125 to 150	-	-
Standard	-	BS 5155	-
Size (mm)	-	40 to 500	50 to 600
Design	-	Integrally Molded for trim	-
Working Pressure	-	PN 10/16	PN 16
Temperature	-	-	10° C to 120° C
Hole Dia	-	-	1.5 mm & 3.0 mm
Free Flow Area	-	-	33% & 40%



## SAFETY RELIEF VALVE

Product	Pressure / Safety Relief Valve
Model	KTBS-50
Standards	API, 520, 521, 526, 527
Pressure Rating	Upto 2500#
Material Of Construction	C.S. / 304 SS / 316 SS / G.M. Alloy Steel
Size	1/2" x 1" to 10" x 14"
Application	Oil & Gas / Petrochemicals & Refinery / Pharma

**Pressure / Safety Relief Valve**



**Pressure Control Valve**

Product	Pressure Control Valve
Model	KTLP-66
Type	Self-Actuating / Pilot Operated
Size	1" to 8"
Application	Gas Application / Tight Stuff Off
Pressure Rating	#300

## CONTROL VALVE

Product	Automatic Control Valve
Model	KACV-511
Design	Self Actuating, Hydraulically Diaphragm & Pilot Operated Most Suitable for Clean & Low Viscous Liquid Servies
Pressure Rating	Upto 300#
Size	1/2" to 16"
Application	Pressure Reducing / Relief / NRV / Pump By-Pass Booster Pump / Level / Solenoid / Flow Control

**Automatic Control Valve**



**Electrical / Pneumatic Control Valve**

Product	Electrical / Pneumatic Control Valve
Model	KPCV-87
Pressure Rating	Upto 2500#
Material Of Construction	316 SS / Monel 400 / Carbon Steel / Alloy Steel
Size	1/2" to 20"
Application	Water, Air, Steam, Gas, Oil
Type	Globe Type, Single Spring & Diaphragm Actuated, Pneumatically Operated, Throttling or On / Off Electrically Radiated Ex-Proof Actuators

## COMPACT & PORTABLE POWER SOLUTION

Kleev offers compact and portable solar power generator unit which is easy to install and starts generating electricity within minutes delivering profitability from day one.

Designed for residences, small offices and remote locations. Solar power generator powers your requirements during the day and can store the excess power into the battery bank to meet your needs during night & non sunny days. Our system features high efficiency PV modules mounted over a robust collapsible structure giving it a compact foot print and a longer product lifetime in outdoor conditions.





## COMPACT & PORTABLE POWER SOLUTION



### FEATURES & BENEFITS

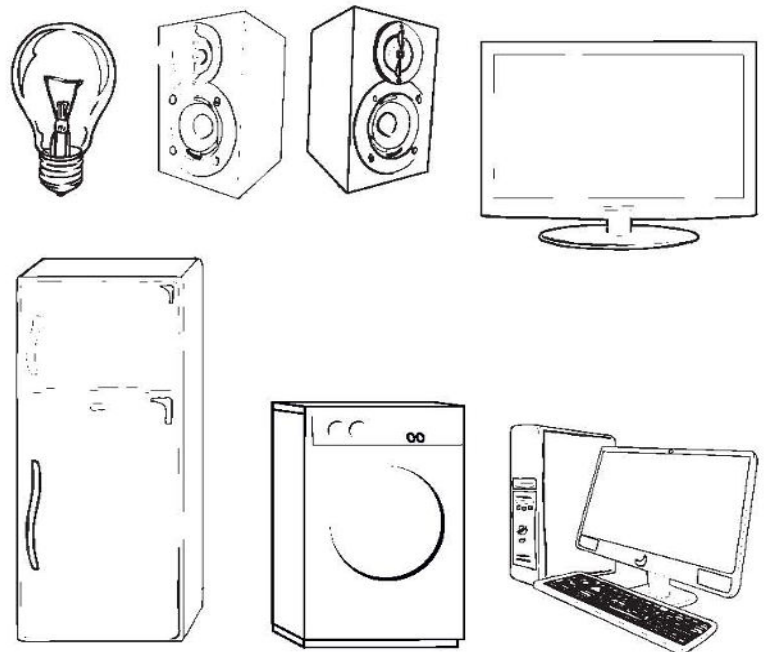
- Safe & easy to install
- Free from Noise, Smoke & Pollution
- Zero maintenance
- Hybrid solution (works on Solar & AC mains)
- Applicable for Home Appliances (like Light, Fan, TV etc.)
- Possible to expand system in future
- Eco friendly system
- Easy installation, Easy operation
- Available in different configuration
- Clean energy, No fuel dependence
- High Reliable power supply
- In-built Inverter & Battery Bank

Product	Plug and Play Solar Solution
Solar Power System	0.3 kWp to 25 kWp
Hybrid Solar System	Solar power, DG power, AC mains power
Battery Backup	2 / 4 / 8 / 12 Hours
Built-in Inverter	0.3 kVA to 25 kVA
Reverse Power	Schneider / Studer / Maxima / Equivalent Brands
Protection	Easy installation, operation and Zero maintenance
Applications	Fans, Lights, TV, Refrigerator etc.



### APPLICATIONS

Remote Areas (like Farm House), Home, Shops, Hospitals, Rural Banks  
Post Office, Health Care, Schools & Hotels, etc.



- No fuel cost
- Portable
- Environment Friendly
- Plug & Use

## SOLAR TELECOM SYSTEM

KLEEV provide innovative solar solutions for telecom sector that helps in reducing downtime and bringing down energy costs. These solutions ensure reliable and on-site power supply for operating base terminal stations, microwave repeater stations, satellite radio and telemetry systems. These custom designed solar power solutions are ideal for powering tower sites and reducing dependence on fuel hungry diesel gensets.

The module is designed in such a way that it can be customised to meet 200W - 1600W BTS loads for various solar insulation zones. As telecom sector is expanding in rural areas, it requires cost effective power solutions for operation.





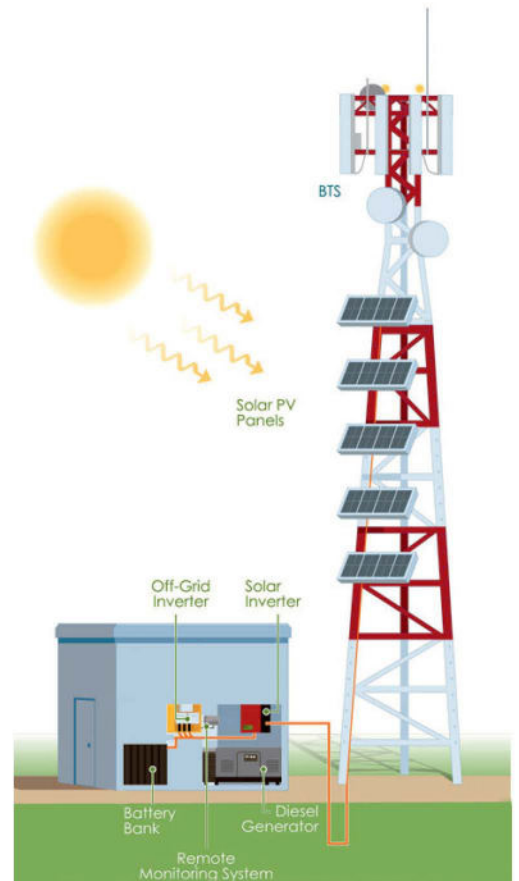
# SOLAR TELECOM SYSTEM



## ADVANTAGES

- Life of the System More Than 25 years
- Zero Maintenance & Running Cost
- Zero Noise Level Compare to Generator
- Carbon Credits Applicable for whole system
- Easy to install and maintain
- Eco-Friendly, Reliable and cost effective

Product	Solar Telecom System
Model	KSTS
Solar Modules	0.5 KWp to 25 KWp
Batteries	2V Lead- Acid / VRLA, 12V Lead acid / T-gell
Power Conditioning	0.5 KVA to 25 KVA
Mounting Structure	MS painted / Galvanized (hot dipped)
Advantages	Life of the System More Than 25 years Eco-Friendly, Reliable and cost effective





## SOLAR STREET LIGHTS

KLEEV offers solar street lights that are well-designed to illuminate large areas with the highest intensity of light. We offer a wide variety of configurations and styles to meet your specific needs. The system will be configured according to the environmental conditions of the installation site as well as your specific requirements / requests for solar lights that last more than 14 hours per night.

Solar Street light consists of highly efficient PV panels, deep discharge cycle batteries, charge controllers, DC LED lights, suitable pole and all other accessories required.

The solution depends upon your requirement of number of street lights and the lumen required per street light.



## SOLAR STREET LIGHTS



### FEATURES

- Highly reliable stand-alone systems
- Zero maintenance, long life performance
- Easy to install with quick steps and maintain
- Rugged pole designed to withstand high wind velocity
- Reliable Battery backup for cloudy or rainy days
- No safety hazards of solar lights
- Safe and reliable operation

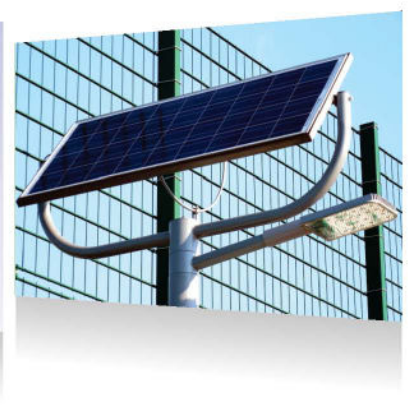
Product	Solar Street Light
PV Solar Panel	80 Wp – 200 Wp
LED Light Source	Super bright LED lamp range 10W – 150W
Batteries	Fully-sealed and maintenance-free solar energy battery with deep discharge cycle suitable for backup required
Charge Controller	Protection against overcharge & over discharge, light & time control with PWM and MPPT charging options.
Lamp Post	4m- 10 m, high quality steel, hot dip galvanized surface with various design as per requirement
Working Time	Working 12 hrs a day, for 2 - 3 days in cloudy or rainy day
Applicable Temperature	-40° C ~ +50° C
Wind-Proof capacity	=150 FM/H

### ADVANTAGE

- Long-life PV modules with more than 25 years of power generation capacity
- Fully automatic operation of light controlled by daylight sensor.
- Highest Lighting Output with most efficient distribution of light
- Requires fewer systems per installation
- Shorter installation time
- Zero maintenance & running cost
- Lowest Total Cost of Ownership in the industry
- No monthly electric bills

### APPLICATIONS

- Street & Pathway
- Highway & Roadway
- Wildlife Area
- Perimeter Security
- Park Lighting
- Hotels & Resorts
- Railway & Shipyards
- Industries & Residence



No fuel cost



Portable



Environment Friendly



Plug & Use



# SOLAR WATER PUMP

KLEEV Solar Water Pumping systems are highly efficient, reliable and clean alternative to fuel burning engines (Diesel generators) for domestic water, irrigation, and livestock requirements.

They require very low maintenance and work without any fuel demand. With no fuel inputs and simple operation, Solar Water Pumps are cheaper, cleaner and more reliable than diesel pumps. They offer the potential to increase small holder incomes through reduced operating costs and improved crop yields.

Solar water pumps operate anywhere that the sun shines, and the longer it shines, the more water they pump.

Once installed, Solar Water Pumps have no moving parts, require very low maintenance and last for decades. Water supplied can be used to irrigate crops, water livestock or, in some cases, provide drinking water.

## ADVANTAGES

- 1) Solar water pumping systems can be installed at a site completely eliminating loss of energy in transmission.
- 2) The system can be installed at remote location where no electricity is available.
- 3) The systems need zero maintenance as no moving parts includes.
- 4) The system does not require any battery bank, since energy generated by PV modules is directly utilized to power the pump-motor to draw water from the open well / bore well or stream / pond or canal.





# SOLAR WATER PUMP

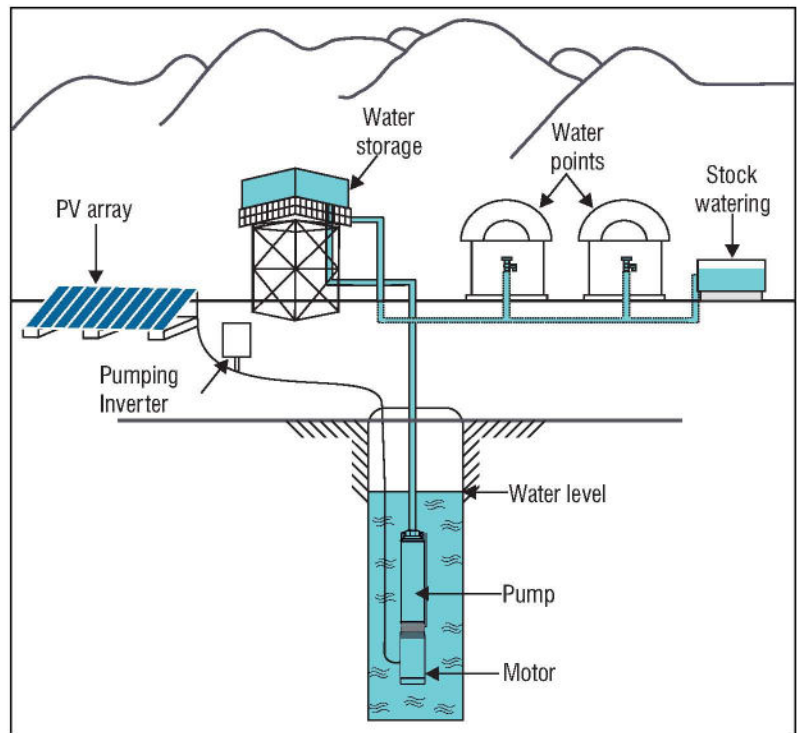


Product	Solar Water Pump
Types PF Pumps	Submersible & surface pumps with Electric Motor
Components	Solar Drive Controller, Solar Panel & its mounting structure, Cable, Pipes
Flow Rates	5 to 5000 lpm
Motor & Driver Ratings	(0.5HP to 100 HP)

## APPLICATIONS

- Drip Irrigation & Sprinkler
- Drinking Water Supply
- Rural Water Supply For Ranches
- Cabins And Cottages
- Dewatering
- Livestock Watering Fountains

## SOLAR (PV) WATER PUMPING SYSTEM



No fuel cost



Portable



Environment Friendly



Plug & Use

## SOLAR SOLUTIONS FOR OIL & GAS

KLEEV offers wide range of solar power solutions for Oil & Gas equipment's which are majorly in remote locations as these areas utility power is unavailable. Solar power is the most reliable and cost effective power solution for monitoring systems of Oil & Gas equipment, since these equipment's low power requirements, reliability, durability, zero maintenance and typically remote locations.

KLEEV off-grid solar system are been in used Oil & Gas sector for different application. System are reliable, durable, and rugged solutions which include enclosures with Covers hazardous area & Non- hazardous area. Our proven solar systems have been deployed by some of the world's largest Oil and Gas Companies in Abu Dhabi, Kuwait, Qatar, Egypt etc.

We design and engineer custom Solar Power Systems for Oilfield Services, Gas Pipelines, Off-shore Drilling, Injection Sites, Wellhead Locations and Related Oil and Gas Service Companies.





## SOLAR SOLUTIONS FOR OIL & GAS



Product	Solar Solutions For Oil & Gas
Solar Power System	Design on the basis of different loads with Ex-proof SPV panels
Batteries	Fully sealed & maintenance free battery, Ex-proof batteries are also provided depending on the site locations.
Autonomy	1 day / 3 days / 5 days
Types of Mounting	Pole mounted / free standing Skid type
Mounting Structure	MS Hot Dipped Galvanized / 304 SS / 316 SS
Enclosures	We provide Enclosures for hazardous locations with specification ratings of NEMA / IEC / ATEX

We, provide Design detailed Engineering, Single line diagram, Installation Commissioning & Supervision with AMC contract.

### APPLICATIONS

- Well head Control Panel
- Control Valve
- Chemical injection system
- Flow meters
- Video surveillance
- High efficiency Gas flow Control Computers
- Remote Telemetry Units (RTU's)
- Mineral exploration camps
- Cathodic protection for pipelines
- SCADA monitoring stations



No fuel cost



Portable



Environment Friendly

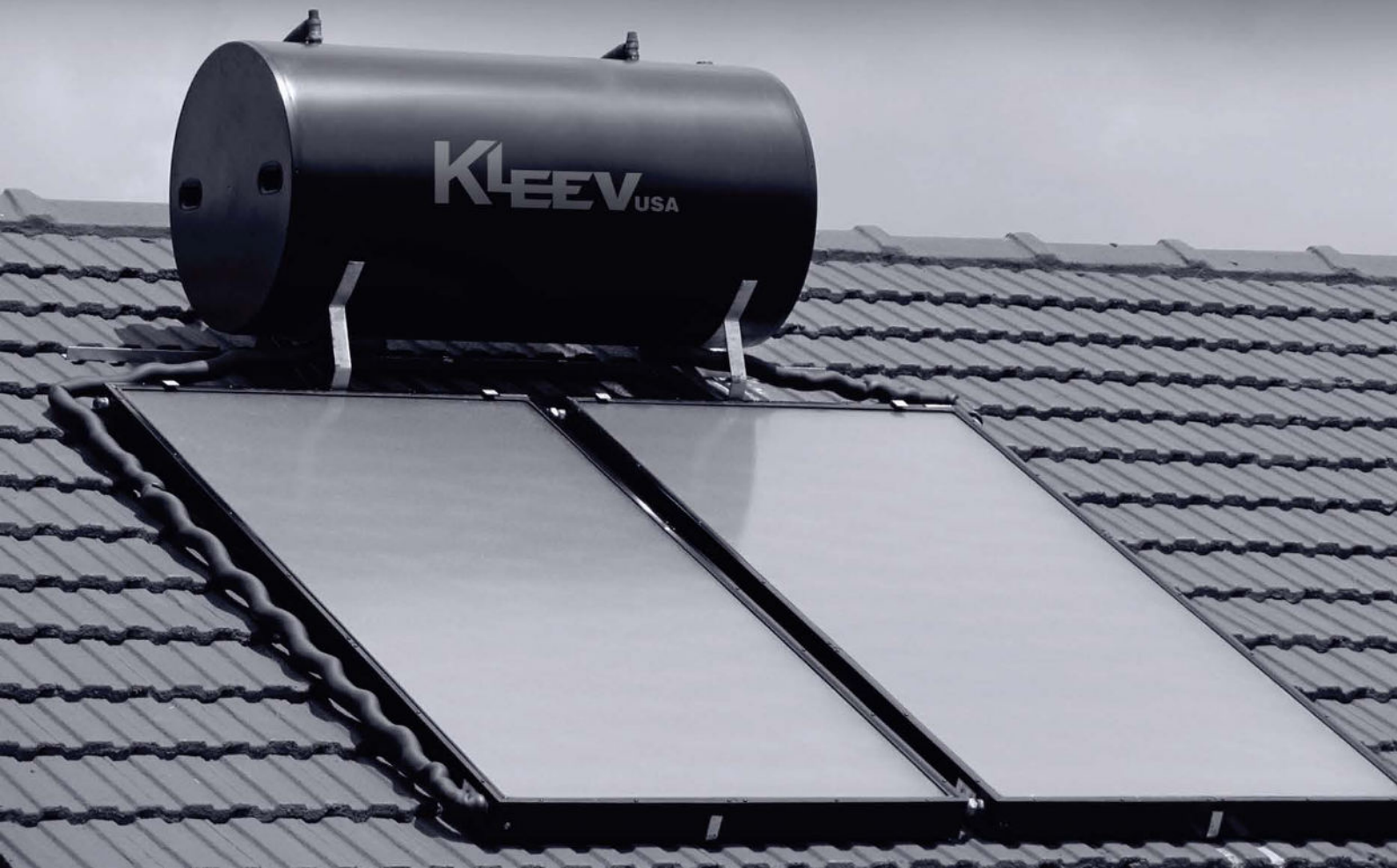


Plug & Use



## SOLAR HOT WATER SYSTEMS

KLEEV solar water heater is the best solar water heating solution for hard water. Using the latest technology and the highest quality solar water heater from the house of KLEEV, it meets your water heating needs even in the hardest water conditions, without the worry of corrosion, leaks or blockages.

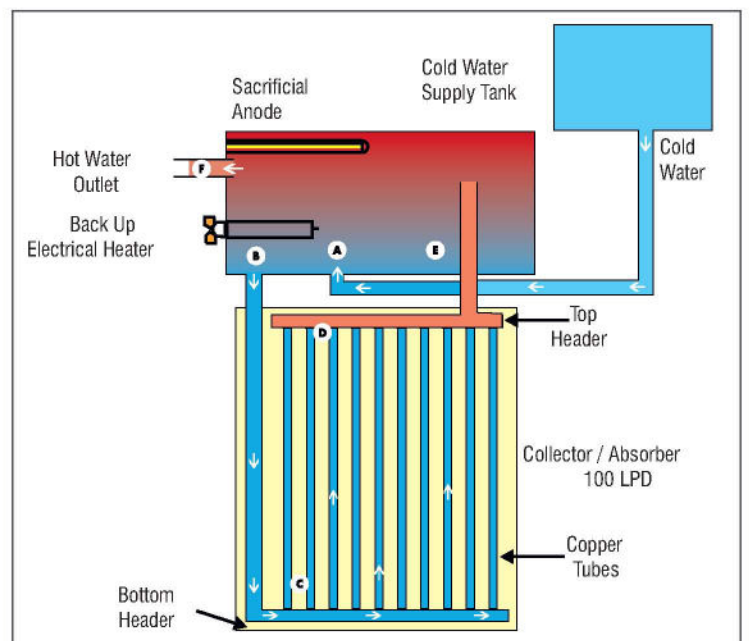


# SOLAR HOT WATER SYSTEMS

Product	Solar Hot Water Systems
Capacity (LPD)	100 to 500
Inner Tank MOC	304 SS & MS
Inner Tank Thickness	0.6 to 1.5
Outer Tank MOC	Galvanised Steel
Outer Tank Thickness	0.5 mm
Insulation MOC	PUF (48 Kg/m3)
Insulation Thickness	55 mm
3 Target Vacuum Tubes	Dia 58 mm x 1800 mm Length
Bracket MOC	Powder Coated GI
Bracket Thickness	1.6 mm



## Thermo Syphon Process





## WATER PURIFICATION SOLUTION

In water purification systems, solar energy is utilized to power ro systems, which furthermore; generate clean water for drinking purpose. These solar ro water systems can purify water from any source. Water from river, pond or bore well, these solar ro systems can deliver safe drinking water anywhere you need; in addition, these systems are highly suitable for military camps, village areas and fairs and tourist places where arrangement of temporary drinking water is a prime requisite at minimal price.

### Solar RO System Configurations

All instruments and parts are installed in a container; solar electric panel is fixed top of it or side as convenient. The best feature of such solar ro systems is their 24 hours working without any diesel generator or any expensive power source.

KLEEV designs, manufactures and supplies solar powered reverse osmosis systems that are less in price but high in product quality, ensuring you get best quality drinking water at very low investment cost. Our product range includes portable systems and large desalination plants that use solar power for their operation; in addition, we can also integrate solar technology to our other ro units and your current water treatment facility.

### Key Features & Benefits

- Solar solution for safe drinking water
- Easy installation & virtually maintenance free
- Water quality meets/exceeds WHO standards
- Connection to electrical power source or overhand water tank not required





## WATER PURIFICATION SOLUTION



### Reverse Osmosis (RO) System

The Reverse Osmosis system is designed to efficiently purify saline water and deliver safe and clean drinkable water.

Parameters	Model 1
Input Water Salinity (ppm)	1500-2500
RO Output Salinity (ppm)	60-250
RO Output Capacity (ltr/hr)	10
Daily Operation** (hrs/day)	6-7
Usage****	3-4 Families
Application	Drinking Water

### Ultra Filtration (UF) System

The Ultra Filtration system is designed to efficiently purify water with high turbidity and suspended particles such as dirt, chemical or biological contaminations.

Parameters	Candle Element
Input Water Turbidity (NTU)	20-30
UF Output Turbidity (NTU)	0.5-1.0
UF Output Capacity (ltr/hr)	10
Daily Operation** (hrs/day)	6-7
Usage****	3-4 Families
Application	Drinking Water

### Applications for Solar RO and UF Systems

- Agriculture
- Brackish Water
- Disaster Relief
- Drinking Water
- Groundwater Remediation
- Irrigation
- Low Energy
- Marine
- Military
- Reverse Osmosis
- Ultrafiltration

\*Product specifications are subject to continuous improvement.

\*\*Daily operations depends on the availability of sunshine.

\*\*\*lower than WHO Norm (1-5 NTU).

\*\*\*\*Assuming 5 liters per capita per day.



## CUSTOMER ACCESSABILITY AND COMPETENCE

We can help you in a timely manner to solve your measurement problems, advising you to assist in optimizing your measurement solution, renewable energy, technology and site location before you make a decision. An extensive distributor and service network ensure the best service worldwide.

Local representatives are big advantage for our customers. The short distance and local language support provide efficient service. Our distributors are trained on KLEEV products at their own facilities or in our training center. Our name assures you that our products have manufactured with the best care and conformity with all Din ISO 2015 directives.

### **Our People**

As a people-based business, we have a problem-solving culture, clear values and strong leadership

### **Risk Processes and Risk Management**

By thinking through every eventuality, we de-risk our projects and bring certainty to clients.

### **Design**

From the concept to the detail, we provide design and engineering services across the life cycle of oil and gas assets.

### **Build**

Onshore or off, greenfield or brown, upstream or down, we provide the full spectrum of engineering, procurement, construction and commissioning services.

### **Manage and Maintain**

We operate and maintain oil and gas assets on behalf of clients under contract to suit their requirements.

### **Train**

We assess needs, build facilities, design curricula and deliver programs to develop safe and effective local workforces.

### **Client Value**

Benefitting from certainty of cost and delivery, and taking advantage of commercial models that meet client needs.

### **In-country Value**

Developing local skills and capabilities benefitting local development, and stimulating productivity in local economies.

Safe

Ethical

Innovative

Responsive

Quality  
and cost  
conscious

Driven  
to Deliver

## CHECK KLEEV OUT ONLINE

### **SOCIAL MEDIA**

FOR THE MOST UP-TO-DATE INFORMATION KLEEV HAS TO OFFER!

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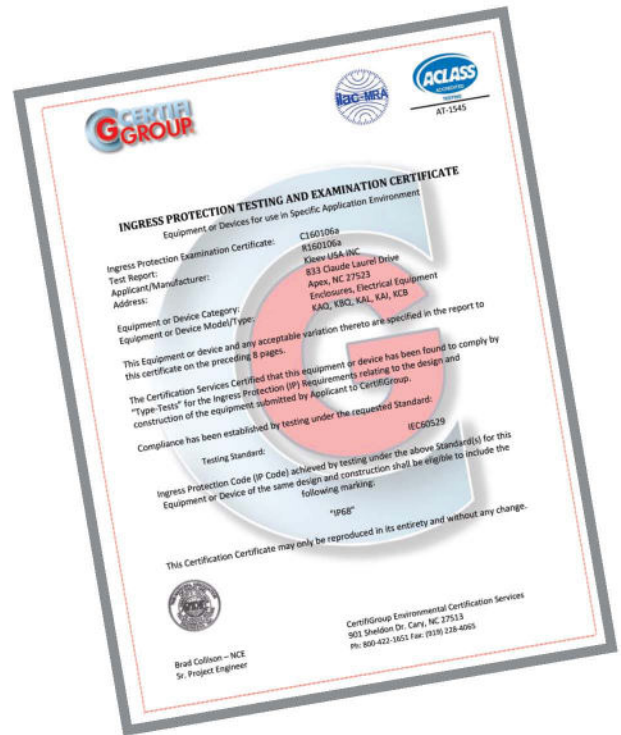
[www.kleevusa.com](http://www.kleevusa.com)







ANSI B40.1, ASME B40.3  
 IS3624, EN837-1/2/3, EN13190  
 IEC 61215 and IEC61730



MANUFACTURING UNIT USA



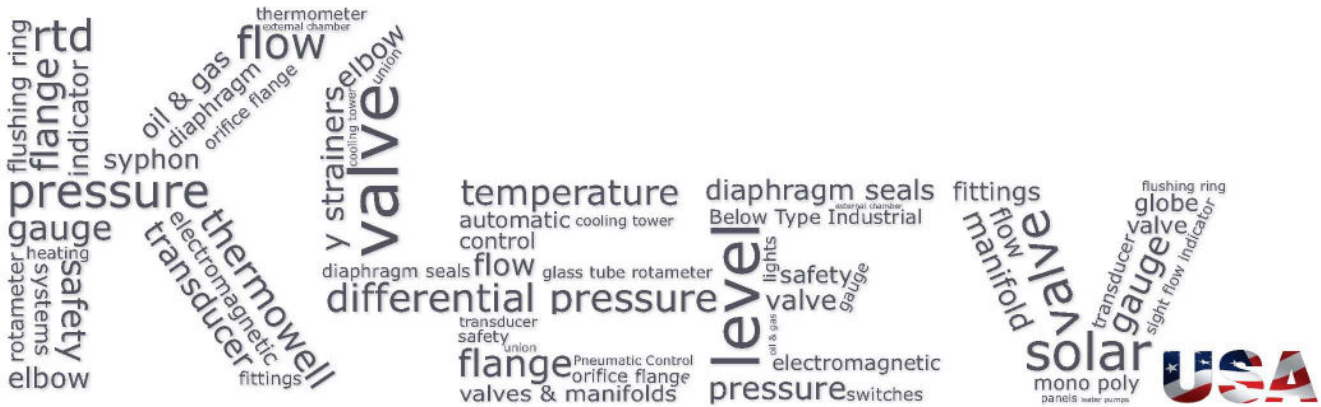


Certification



Standard

ANSI B40.1, ASME B40.3  
IS3624, EN837-1/2/3, EN13190  
IEC 61215 and IEC61730



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