

**DEPENDABLE, QUALITY, PROVEN DESIGN** . . . since 1989

American Made

# PRO MAG LTD

# MAGNETIC LIQUID LEVEL INDICATOR

Engineering at its best! That's what PROMAG PM LTD offers. A unique design that will provide a **lifetime** of **safe** level indication. These state of the art Magnetic Liquid **Level Indicators** can be installed on almost any shape, size or type of vessel commonly used in industry today. If there is a non-magnetic material that's compatible with your process fluid, PROMAG PM LTD has a design that will give you years of maintenance free service -We guarantee it

# Compare!!!

The Standard features and versatility of the PM-26

The PROMAG PM LTD PM-26 Magnetic Liquid Level Indicator is a

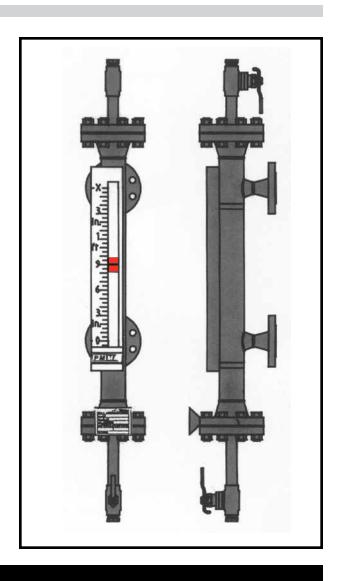
# **DIRECT REPLACEMENT FOR** LESS RELIABLE DEVICES

#### such as:

- DP Transmitters
- Tubular Gage
- Sight Glass Boiler Gages
- Glass Ultrasonic
- Capacitance
- Radar
- Displacement Type

#### **FEATURES**

- SUPER ENVIRONMENTAL And PERSONNEL PROTECTION
- NO GLASS to break and leak process
- FULL VACUUM to 4,500 PSIG
- -380 to 1000 F
- SPECIFIC GRAVITIES as low as 0.35
- VESSEL LIQUID LEVEL INDICATION from 6 to 720 INCHES
- TOTAL LEVEL and INTERFACE LEVEL measurements with the same unit. A difference of **0.10** minimum in specific gravity is all we need to give a distinct interface between two fluids.
- EVERY PM-26 GAUGE is CUSTOM **BUILT** to customer specification. This allows you to replace old and less reliable equipment, with a minimum of field modifications to your vessels.
- UNIQUE FLUORESCENT INDICATOR can be seen from 30 to 50 yards away. This will eliminate many unnecessary, and sometimes dangerous trips to check levels in your tanks.
- STRONG MAGNETIC ATTRACTION between float and external indicator.
- ULTIMATE FLASHING INDICATOR for the most reliable indicator on the market today!



PRO MAG LTD

#### **BENEFITS**

■ Maintenance Free

We Guarantee It!

Safety

SUPER Environmental. and Personnel Protection. Glass not in contact with Process Fluid. Therefore, No Leaks / Blow Outs

Design

Unlimited

**Vibration Resistant** 

Strong magnetic coupling between float and external

follower

Construction

ASME Certified Welding, ASME Certified Materials,

Hydro Testing

Direct Reading

Positive Zero

### **OPTIONS**

Insulation

Freeze Protection, Personnel Protection Cryogenic Service

Welding Certifications X-Ray, U-Stamp, Stress Relief, NACE,

Mill Test Reports

Special Materials

Monel, Hastelloy, Titanium, Alloy 20, Fiberglass, Kynar, PVC, CPVC, TFE

Lined, Halar Coated,

Level Switches

Electric. Pneumatic. Fiber Optic

**Continuous Level** 

4-20 mA, 10-50 mA and 3-15 PSIG

**Transmission PID Controllers** 

4-20 mA, and 3-15 PSIG.

Electro-Pneumatic Control

▲ Special Scales

Percent, Gallons, Liters, 3" wide

Acrylic Scales

# APPLICATIONS / from A to Zymurgy

Acetic Acid Acid Settler Ammonia Asphalt Settler Benzene Blow Case Boilers Brine Butane Caustics Collection Pots De-Ionized Water Diesel

Dow Therm Drip Pot Environmental Extreme Flashing Liquids Feedwater Heaters Flare Drums Freon Glycol Hydraulic Oil Hydrazine Hydrochloric Acid Hydrofluoric Acid

Hydrogen Sulphide

Interface (Oil/Water) Interface (Oil/Caustic) Interface (Oil/Acid) Jet Fuel LPG Liquid Carbon Dioxide Liquid Ethylene Methyl Chloride Molten Sulfur Muriatic Acid Phosgene Propane

ISO Butane

Seal Oil Pot Slop Oil Solvents Sour Oil Sour Water Steam Drums Sulfuric Acid Sumps Therminol Volume Chambers

Water **Xylene** Zymurgy Vats

### **SPECIFIC APPLICATIONS**

#### POWER PLANTS

Water, Boilers, Condensate Pots, Day Tanks (Acid, Caustic SO2, Ammonia), Steam Drums, Feedwater Tanks, Heater Drums, Dearators

#### **UTILITIES**

Condensate, Water, Boilers, Feedwater Tanks

#### PETROCHEM

Acids - (Sulfuric, Hydrochloric, Hydrofluoric, Acetic, Phosphoric etc...), Steam Condensate, Circulating Fluids. ( Dowtherm. Glycol etc...), Solvents, Caustics, LPG Fuels, De-Ionized Water, Ammonia, Freon, Heptane, Methyl Chloride, Sodium Hypochlorite, Caustic Soda

#### **PULP & PAPER**

Chlorine, Slurry Tanks, Steam Condensate, Boilers, Receivers, Pots, Acids, Hydrogen Peroxide Flare Knock-Out Vessels Hydrocarbon Mix

#### COMPRESSORS & PUMPS

Oil Sumps, Oil Seal Reservoirs

#### TANK FARMS

Propane, Butane, Oil, Gasoline

### PROCESS VESSELS

Reactors, Absorbers, Scrubbers, Decanters

#### VACUUM TOWERS

Crude, Gasoline, Light **Hydrocarbons** 

#### **PHARMACEUTICAL**

Acids, Caustics, Solvents, De-Ionized Water

#### CHILLERS

Ammonia, Freon

#### LIQUID GAS PLANTS

Propane, Butane

### REFINERY'S

Benzene, Tolulene, Gasoline, Kerosene, Ethylene, Butane, Propane, Iso-Butane, Heavy and Light Oils, Solvents

### SULFUR PLANT Molten Sulfur

#### ASPHALT PLANT Hot Asphalt, Pitch

# ALKYL PLANT

Acids (Sulfuric, Hydrochloric, Hydrofluoric)

### **COKER PLANT**

Sour Water, Naptha, Glycol, Light and Heavy Oils

### D & C PLANT

Acids, Sour Water

#### ISOMAX

Acids, Sour Water, Chlorine

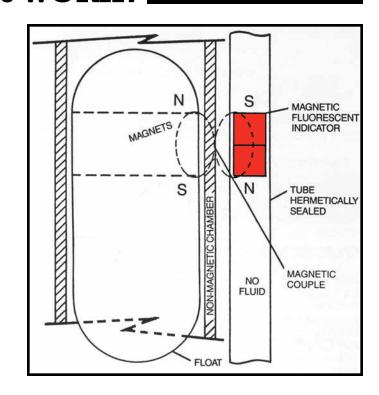
# HOW DOES THE PM-26 WORK? HOW DOES THE PM-26 WORK?

A specially designed and engineered float is housed in a non-magnetic chamber. The float is weighted to the specific gravity of the process fluid and is equipped with a series of magnets which generates a sufficient flux so as to attract another magnetic assembly on the outside of the chamber.

This external magnetic assembly is a fluorescent orange indicator which is hermetically sealed in a special glass or polycarbonate tube attached to the external wall of the float chamber.

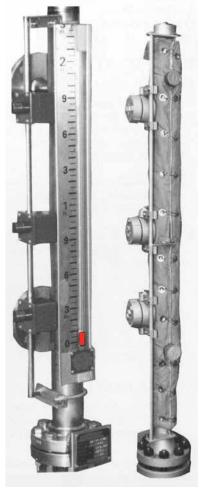
As the float moves with the changes in the liquid level of the vessel, the strong magnetic attraction between the indicator and float will ensure that the indicator will track the position of the float exactly and thus, in turn, the liquid level precisely.

The magnetic strength of the float-indicator assembly makes the **PM-26** the preferred level gauge for severe vibration applications.







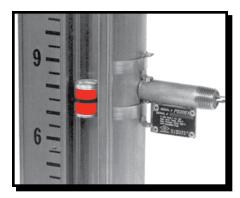


# **TYPICAL INSTALLATIONS** NIPPLE **FLANGED** COUPLINGS SIDE/BOTTOM **FLANGED** TOP/BOTTOM **FLANGED** TOP/SIDE **FLANGED** MULTIPLE SIDE **INTERFACE** TANK TOP OR SUMP P STYLE

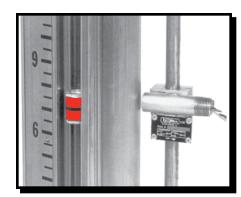
(PROMAG LTD)

# **OPTIONAL EQUIPMENT - SWITCHES**

# **REED SWITCH**



ES30EX Switch (Clamp Mounted)



ES30EX Switch (Rod Mounted)

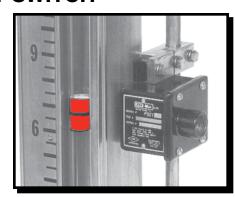
See **Bulletin 1002** for more Details



# **MERCURY SWITCH**



ES21 NEMA 4x ( Clamp Mounted )



ES21 NEMA 4x (Rod Mounted)



ES21EX (Clamp Mounted)



ES21EX (Rod Mounted)

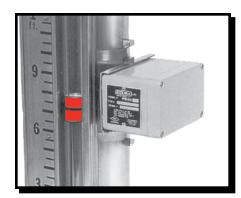
See **Bulletin 1003** for more Details





# **OPTIONAL EQUIPMENT - SWITCHES**

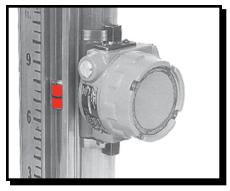
# **MICRO-SWITCH**



ES40 Switch ( Clamp Mounted ) NEMA 4X Fiberglass Housing



ES40 Switch (Rod Mounted) NEMA 4X Fiberglass Housing



ES40EX (Clamp Mounted) NEMA 7

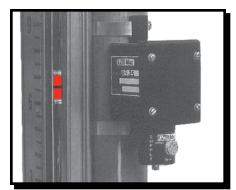


ES40EX (Rod Mounted) NEMA 7

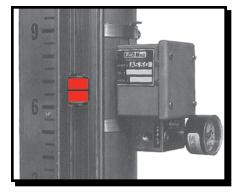
See **Bulletin 1004** for more Details



# PNEUMATIC SWITCH



**AS35** 



AS50

All Stainless Steel Construction Input / Output Gauge Ports

See **Bulletin 1005** for more Details



# OPTIONAL EQUIPMENT

# TRANSMITTERS / CONTROLLERS / SCALEKITS

# **CONTINUOUS LEVEL TRANSMITTERS**

### Resistance

Transmitter



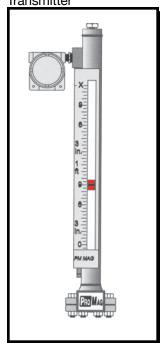
# CLT-C25 EXTERNAL

Mounted on PM-26

High Temperature Applicable

# Magnetostrictive

Transmitter



# MST-C27 EXTERNAL

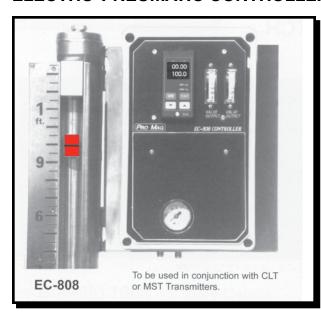
Mounted on PM-26 Gauge

High Temperature Applicable

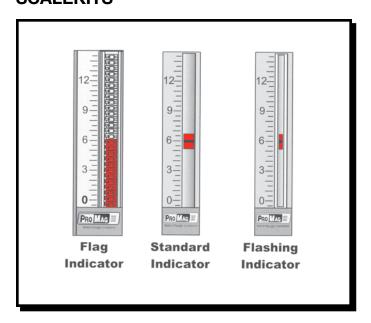
See Bulletins 1008-R1 for CLT & 1011 for MST.



### **ELECTRO-PNEUMATIC CONTROLLER**



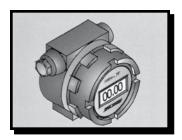
# **SCALEKITS**



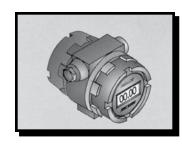
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# **OPTIONAL EQUIPMENT - INDICATORS**

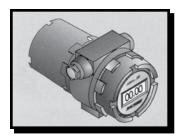
# **EXPLOSION-PROOF DIGITAL INDICATORS**



PDI-1100 LCD Display



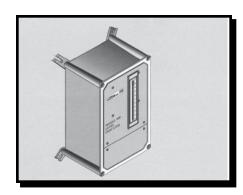
PDI-1100T LCD Display Transmitter



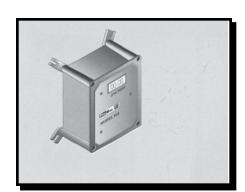
PDI-1100PS LCD Display Power Supply

See **Bulletin 1008** for more Details

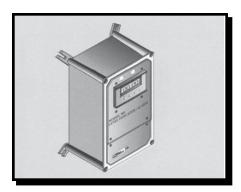
# **NEMA 4 DIGITAL INDICATORS**



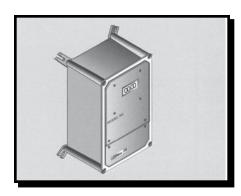
MODEL 900
Bargraph Display



MODEL 910 LCD Display



MODELS 901, 902 903, 904 Fluorescent Display

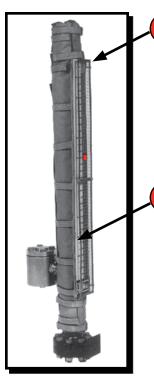


MODEL 911 LCD Display

See **Bulletin 1008** for more Details



# **OPTIONAL EQUIPMENT**



# FRONT SCALE PROTECTION

- Prevents damage to Scale and Indicator
- Consult Factory for Information on other Insulation and Scale damage protection devices available.



### **PM-26 INSULATION BLANKET**

- Freeze Protection
- · Personnel Protection
- PM-26 Control of Heat Loss / Gain
- Steam Tracing
- Electric Heat Tracing / Thermostats / Temperature Controllers

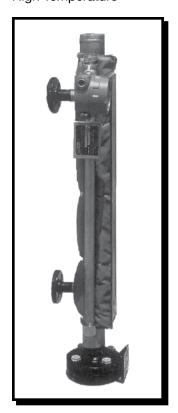


# **CRYOGENIC INSULATION**

- · Frost Protection
- Reduced Flashing
- -375° F

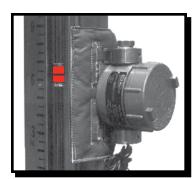
# **CLT INSULATION PAD**

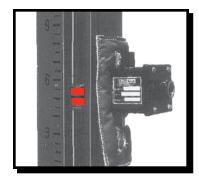
High Temperature



#### **SWITCH INSULATION PAD**

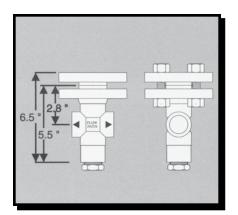
High Temperature





#### **MAGNETIC TRAP**

Ferrous Particle Removal



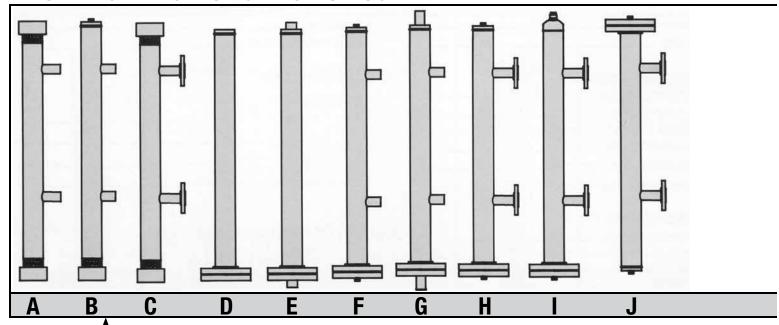


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# REQUEST FOR QUOTE / ORDERING INFORMATION

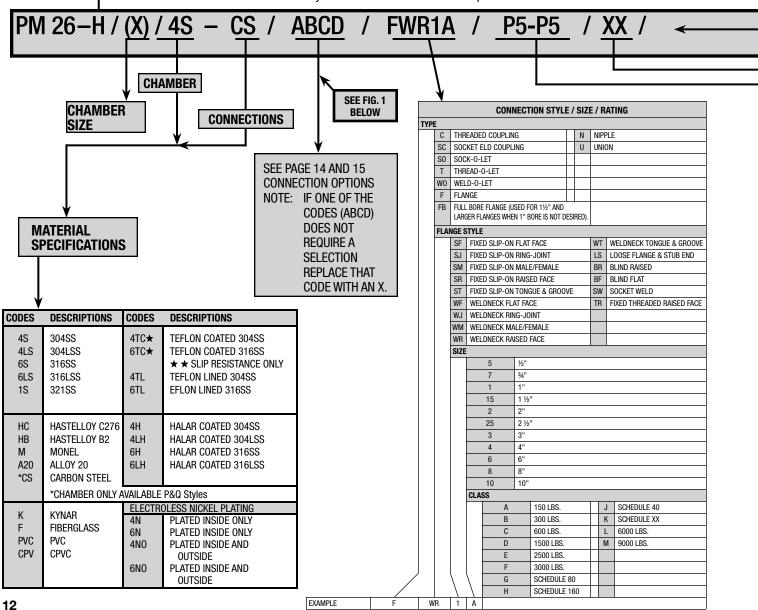
Rep Name	Salesman		
Customer	Customer Contact		
APPLICATION DATA  Process Fluid % Concentration  Specific Gravity ( at Operating Temp )  Interface Specific Gravity Pressure Design / Operating  Temp Design / Operating //	ES-21		
Process Connection  Material  Process Connection  Material  Process Connection  Material  Process Connection  Size  Rating	AS-35		
Flange/ Coupling/ Nipple/_ Gussets  Yes Support Bracket  Yes Vent / Drain Valves (Ball, Gate, Plug, and Mfg)	Mount Mount (above 200 deg F)  OTHER OPTIONS  CLT (Remote Transmiter)		
INDICATION DATA Inches of Visual Indication Inches of Center to Center Indicator : Standard Special Scale (Describe: Provide Drawing)			
Glass Tube Protector: Yes  INSULATION  Blanket Cryogenic Indicator Non-Frosting			
Protection: Steam Electric	Provide Sketch		
Steam	Questions and / or Notations  (1) Are there any obstructions that will limit our dimensions on this PM-26?  (2) Orientation of Scale Kit?  (3) Orientation of Process Connections?  (4) Will you have enough clearance to remove the flats from the bottom of the PM-26 Chamber? Note: Lower Specific Gravities may require a longer dead leg.		
Part # PM26- Refer to pages 12, 13, 14, and 15 to determine correct	part number.  PRO MAG LTD		

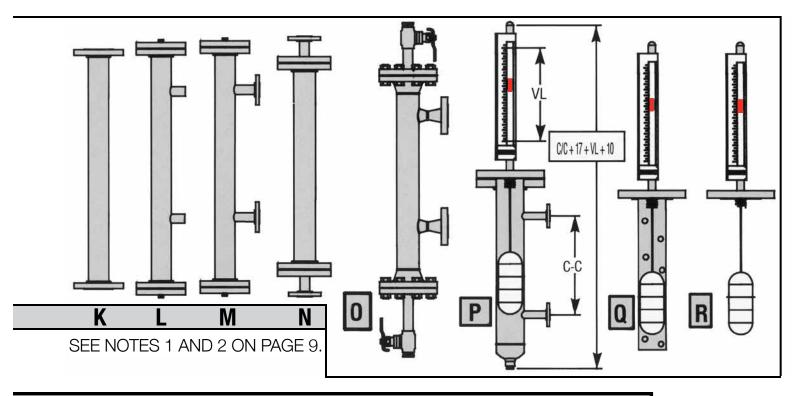
# **MAGNETIC INDICATOR SELECTION GUIDE**



NOTE: If a configuration that you prefer does not appear above choose the one that is the closest to your needs and add a V after the letter of the configuration chosen.

EXAMPLE: You select H but only want one side connection. The part is therefore HV.

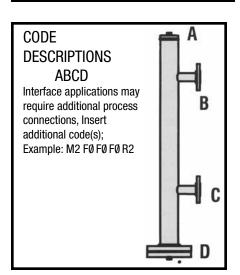




# INCHES OF VISUAL INDICATION / CENTER - CENTER

VEN	T / DRAIN			
PLUG OPTIONS		THREAD OPTIONS		
P5	1/2"	F5	1/2"	
P7	3/4"	F7	3/4"	
P1	1"	F1	1"	
VALVE OPTIONS		SOCKET OPTIONS		
V5	1/2"	S5	1/2"	
V7	3/4"	S7	3/4"	
V /	0/ 1			
V1	1"	S1	1"	

SPECIFY THE REQUIRED VALVE OPTIONS: BALL GATE OR PLUG: MANUFACTURE:



OTHER OPTIONS						
В	INSULATION BLANKET	Р	POLYCARBONATE TUBE			
С	CRYOGENIC INSULATION	R	SWITCH ROD FOR HIGH			
CF	COATED FLOAT		TEMPERATURE			
ET	ELECTRIC TRACING	S	SPECIAL SCALE (STAINLESS STEEL)			
ETC	ELECTRIC TRACING WITH	SB	SUPPORT BRACKET			
	CONTROLLER	S0	STAND-OFF			
G	PROCESS CONNECTION GUSSETS	ST	STEAM TRACING			
1	INDICATOR NON-FROSTING	XX	NO OPTIONS			
	PROTECTION	FI	FLASHING INDICATOR			
GTP	GLASS TUBE PROTECTOR	CP	CLT PAD			
Α	ACRYLIC RULER	SP	SWITCH PAD			
AH	AH ACRYLIC RULER HIGH TEMP (ABOVE 140°)					

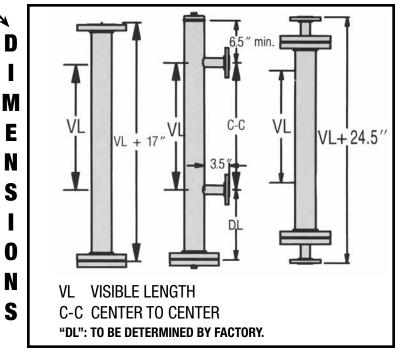


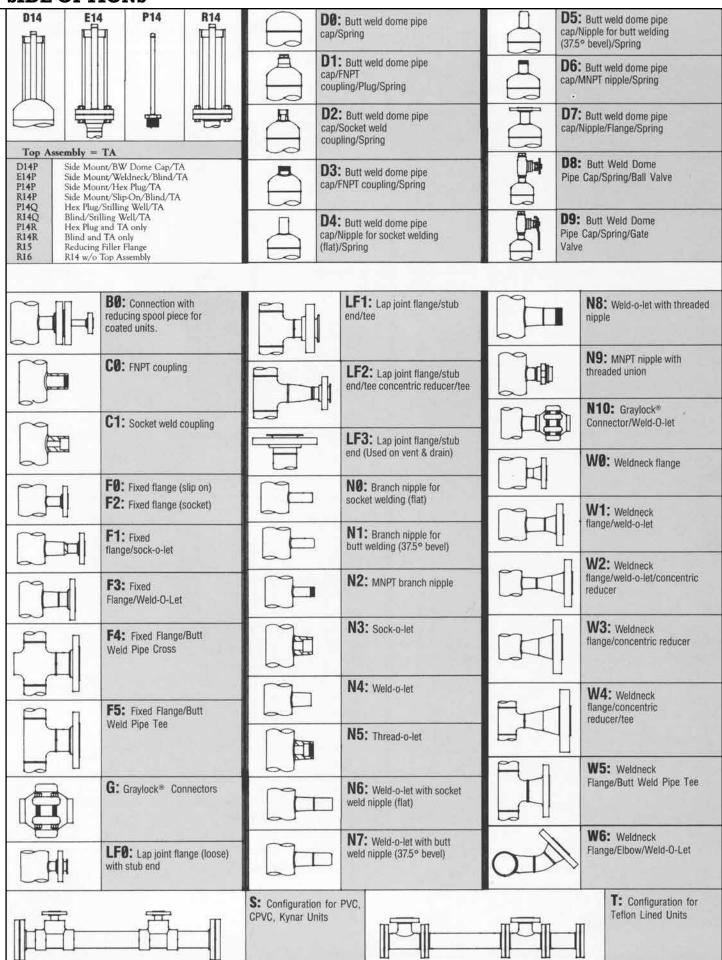
FIGURE 1 FIGURE 2

13

# **TOP AND BOTTOM OPTIONS**

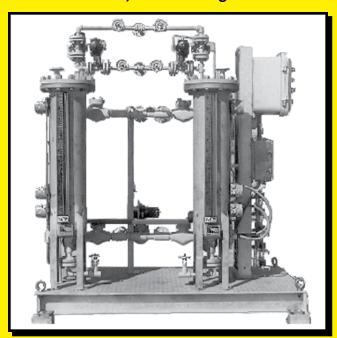
D DOI TOM OT II	<u> </u>			
F0: Fixed flange/(slip on) F2: Fixed flange (socket)	T	W0: Weldneck flange		M0: Welded flat pipe cap/Spring
R0: Fixed Flange/Blind Flange/Spring.		<b>E0:</b> Weldneck flange/Blind flange/Spring.	<u> </u>	M1: Welded flat pipe cap/FNPT/Spring.
R1: Fixed Flange/Blind Flange with FNPT/Spring.		E1: Weldneck flange/Blind flange with FNPT/Spring.		M2: Welded flat pipe cap/Plug/Spring
R2: Fixed Flange/Blind Flange with plug/Spring		E2: Weldneck Flange/Blind flange with plug/Spring		M3: Welded flat pipe cap/Socket weld bore/Spring
R3: Fixed Flange/Blind Flange with socket weld coupling/Spring		E3: Weldneck flange/Blind flange with socket weld coupling/Spring		M4: Welded flat pipe cap/FNPT coupling/Spring
R4: Fixed Flange/Blind Flange with threaded coupling/Spring		E4: Weldneck flange/Blind flange with threaded coupling/Spring		M5: Welded flat pipe cap/Nipple for socket welding (flat)/Spring
R5: Fixed Flange/Blind Flange with socket weld nipple (flat edge)/Spring		E5: Weldneck flange/Blind flange with socket weld nipple		M6: Welded flat pipe cap/Nipple for butt welding (37.5° bevel)/Spring
R6: Fixed Flange/Blind Flange with butt weld nipple (37.5° bevel)/Spring		E6: Weldneck flange/Blind flange		M7: Welded flat pipe cap/MNPT nipple/Spring
R7: Fixed Flange/Blind Flange with threaded nipple/Spring		bevel)/Spring	百	M8: Welded flat pipe cap/Nipple-Flange/Spring
R8: Fixed Flange/Blind Flange with reducing flange/Spring		Weldneck flange/Blind flange with threaded nipple/Spring		M9: Welded flat pipe cap/spring/plug or ball valve
R9: Fixed Flange/Blind Flange with bored for socket welding/Spring		E8: Weldneck flange/Blind flange with reducing flange/Spring		M10: Welded Flat Cap/MNPT
R10: Fixed Flange/Blind Flange with spring/plug or ball valve		E9: Weldneck flange/Blind flange bored for socket welding/Spring		Nipple/Threaded Union
		E10: Weldneck Flange/Blind Flange with spring/plug or ball		M12: Welded flat pipe cap/spring/gate valve
R11: Fixed Flange/Blind Flange with spring/2 plug or ball valves		valve		T0: Threaded pipe cap (3000#)/Spring, Sch 40 min.
		E11: Weldneck Flange/Blind Flange with spring/2 plug or ball		T1: Threaded pipe cap (3000#)/Spring. Sch 40 min.
R12: Fixed Flange/Blind Flange with gate valve/Spring		Yaliyo		T2: Threaded pipe cap/Plug/Spring. Sch 40 min.
R13: Fixed Flange/Blind Flange with 2 gate valves/Spring		E12: Weldneck flange/Blind flange with gate valve/Spring	A P	T3: Threaded pipe cap/spring/other pipe fittings. Sch 40 min.
		E13: Weldneck flange/Blind		C2: FNPT Coupling/Hex Plug (for vent and drain applications)
	F0: Fixed flange/(slip on) F2: Fixed flange (socket)  R0: Fixed Flange/Blind Flange With FNPT/Spring.  R1: Fixed Flange/Blind Flange With FNPT/Spring.  R3: Fixed Flange/Blind Flange With plug/Spring  R4: Fixed Flange/Blind Flange With socket weld coupling/Spring  R5: Fixed Flange/Blind Flange With socket weld nipple (flat edge)/Spring  R6: Fixed Flange/Blind Flange With butt weld nipple (37.5° bevel)/Spring  R7: Fixed Flange/Blind Flange With threaded nipple/Spring  R8: Fixed Flange/Blind Flange With threaded nipple/Spring  R9: Fixed Flange/Blind Flange With bored for socket welding/Spring  R10: Fixed Flange/Blind Flange With spring/plug or ball valve  R11: Fixed Flange/Blind Flange With spring/plug or ball valve  R12: Fixed Flange/Blind Flange With spring/2 plug or ball valves	R0: Fixed Flange/Blind Flange with FNPT/Spring.  R1: Fixed Flange/Blind Flange with FNPT/Spring.  R3: Fixed Flange/Blind Flange with socket weld coupling/Spring  R4: Fixed Flange/Blind Flange with socket weld nipple (flat edge)/Spring  R5: Fixed Flange/Blind Flange with butt weld nipple (37.5° bevel)/Spring  R7: Fixed Flange/Blind Flange with threaded nipple/Spring  R8: Fixed Flange/Blind Flange with threaded nipple/Spring  R7: Fixed Flange/Blind Flange with bored for socket welding/Spring  R1: Fixed Flange/Blind Flange with spring/plug or ball valve  R11: Fixed Flange/Blind Flange with spring/plug or ball valves  R12: Fixed Flange/Blind Flange with spring/2 plug or ball valves	F0: Fixed flange/Blind Flange (socket)  R0: Fixed flange/Blind Flange (socket)  R1: Fixed flange/Blind Flange with FNPT/Spring.  R1: Fixed flange/Blind Flange with FNPT/Spring.  R2: Fixed flange/Blind Flange with plug/Spring with plug/Spring  R3: Fixed flange/Blind Flange with plug/Spring  R4: Fixed flange/Blind Flange with socket weld coupling/Spring  R5: Fixed flange/Blind Flange with socket weld inpipe (37.5° bevel)/Spring  R6: Fixed flange/Blind Flange with but weld nipple (37.5° bevel)/Spring  R7: Fixed flange/Blind Flange with threaded nipple/Spring  R8: Fixed flange/Blind Flange with with with weld nipple (37.5° bevel)/Spring  R9: Fixed flange/Blind Flange with but weld nipple (37.5° bevel)/Spring  R9: Fixed flange/Blind Flange with but weld nipple (37.5° bevel)/Spring  R10: Fixed flange/Blind flange with but weld nipple (37.5° bevel)/Spring  R10: Fixed flange/Blind flange with spring/plug or ball valve  R11: Fixed flange/Blind flange with spring/plug or ball valve  R12: Fixed flange/Blind flange with spring/plug or ball valve  R11: Fixed flange/Blind flange with spring/plug or ball valve  R12: Fixed flange/Blind flange with spring/plug or ball valve  R11: Fixed flange/Blind flange with spring/plug or ball valve  R12: Fixed flange/Blind flange with spring/plug or ball valve  R13: Fixed flange/Blind flange with gate valve/Spring  R13: Fixed flange/Blind flange with gate valve/Spring  R14: Weldneck flange/Blind flange with gate valve/Spring  R15: Weldneck flange/Blind flange with spring/plug or ball valve  R16: Weldneck flange/Blind flange with spring/plug or ball valve	F0: Fixed flange/(slin on) F2: Fixed flange/(slind flange) R0: Fixed Flange/Blind flange with FNPF/Spring.  R1: Fixed Flange/Blind flange with FNPF/Spring.  R2: Fixed Flange/Blind Flange with plug/Spring R3: Fixed Flange/Blind Flange with socket weld coupling/Spring R4: Fixed Flange/Blind Flange with socket weld coupling/Spring R5: Fixed Flange/Blind flange with socket weld ripple (flat edge/(Spring) R6: Fixed Flange/Blind Flange with but weld nipple (375° bevel/Spring) R7: Fixed Flange/Blind Flange with threaded nipple/Spring R8: Fixed Flange/Blind flange with threaded nipple/Spring R7: Fixed Flange/Blind flange with threaded nipple/Spring R8: Fixed Flange/Blind flange with threaded nipple/Spring R7: Fixed Flange/Blind flange with but weld nipple (375° bevel/Spring) R8: Fixed Flange/Blind Flange with but weld nipple (375° bevel/Spring) R9: Fixed Flange/Blind Flange with but weld nipple (375° bevel/Spring) R10: Fixed Flange/Blind Flange with spring/2 plug or ball valve  E10: Weldneck flange/Blind flange with spring/Spring R10: Fixed Flange/Blind Flange with spring/Spring R11: Fixed Flange/Blind Flange with spring/Spring R12: Fixed Flange/Blind Flange with spring/Spring R13: Fixed Flange/Blind Flange with spring/Spring R14: Fixed Flange/Blind Flange with spring/Spring R15: Fixed Flange/Blind Flange with spring/Spring R16: Fix

### SIDE OPTIONS

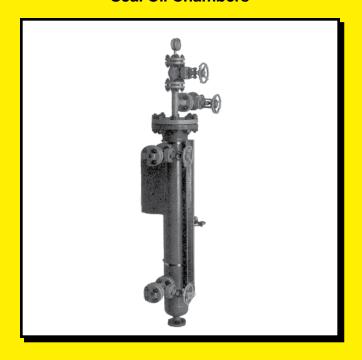


# Applications only limited by your Imagination!

On site Time/Rate measurement Units, Skid Packages.

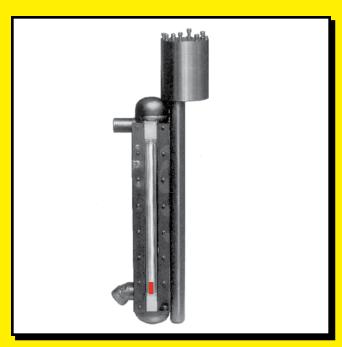


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