



THE GAUGE
OF THE
21st CENTURY
TODAY

# 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

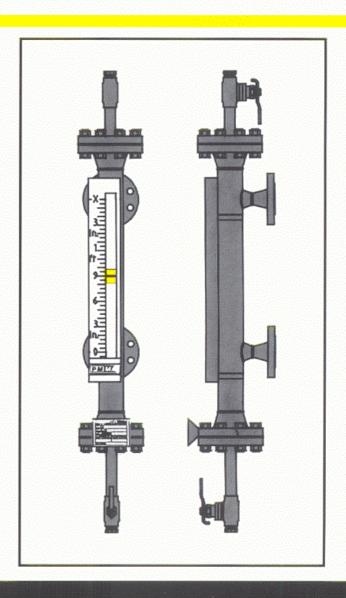
#### DIRECT REPLACEMENT FOR LESS RELIABLE DEVICES

#### such as:

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



#### BENEFITS

#### Maintenance Free

#### We Guarantee It!

#### Insulation

OPTIONS

#### Freeze Protection, Personnel Protection Cryogenic Service

#### Safety

#### SUPER Environmental. and Personnel Protection. Glass not in contact with Process Fluid, Therefore,

#### Certifications

Welding

#### X-Ray, U-Stamp, Stress Relief, NACE, Mill Test Reports

#### Design

# No Leaks / Blow-Outs

#### Special Materials

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

Unlimited Strong magnetic coupling

#### Lined, Halar Coated, **Level Switches** Electric, Pneumatic, Fiber Optic

Vibration Resistant

- between float and external follower
- Continuous Level 4-20 mA, 10-50 mA and 3-15 PSIG

- Construction
- ASME Certified Welding, ASME Certified Materials.
- Transmission 4-20 mA, and 3-15 PSIG,

- Direct Reading
- Hydro Testing
- PID Controllers Electro-Pneumatic Control

Special Scales

Percent, Gallons, Liters, 3" wide Acrylic Scales

## Positive Zero

**APPLICATIONS** 

#### from A to Zymurgy

Dow Therm

#### Acetic Acid Acid Settler Ammonia Asphalt Settler Benzene Blow Case Boilers Brine Butane Caustics

Collection Pots

De-Ionized Water

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

Hydrogen Sulphide

ISO Butane 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

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

Diesel

#### 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

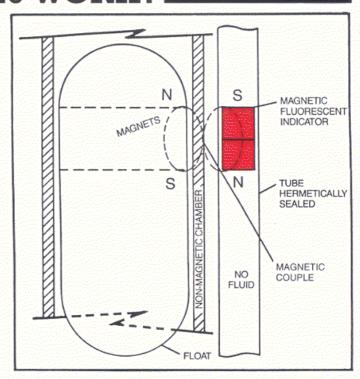
# HOW DOES THE PM-26 WORK? HOW DOES THE PM-26 WORK?

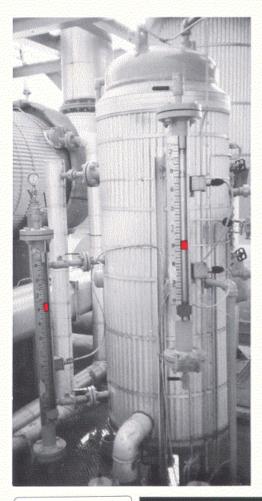
A specially designed and engineered float is housed in a non-magnetic chamber. The float is weighted to the specific gravity of the process fluid and is equipped with a series of magnets which generates a sufficient flux so as to attract another magnetic assembly on the outside of the chamber.

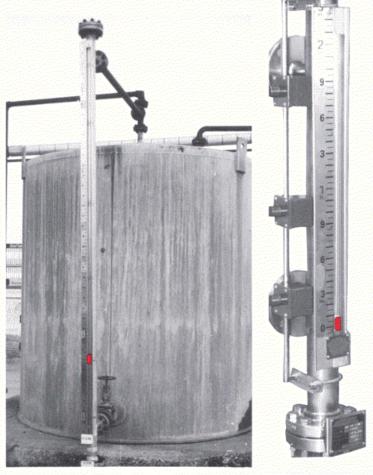
This external magnetic assembly is a fluorescent orange indicator which is hermetically sealed in a special glass or polycarbonate tube attached to the external wall of the float chamber.

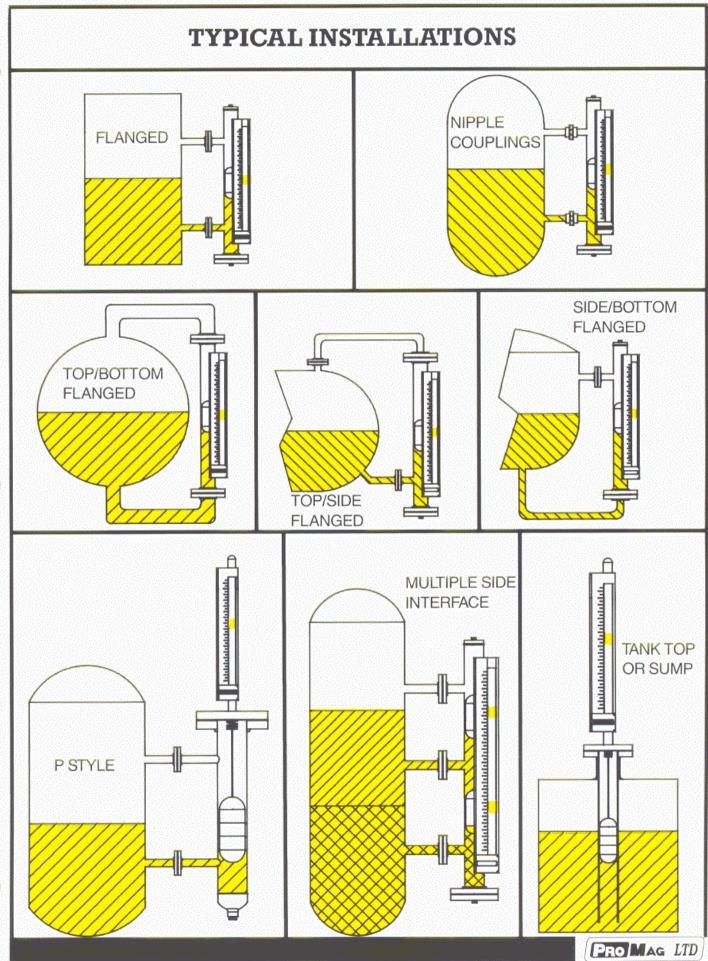
As the float moves with the changes in the liquid level of the vessel, the strong magnetic attraction between the indicator and float will ensure that the indicator will track the position of the float exactly and thus, in turn, the liquid level precisely.

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





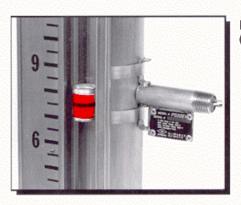




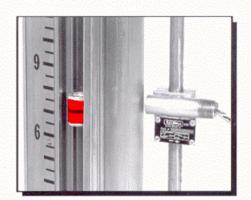
# **OPTIONAL EQUIPMENT - SWITCHES**

#### **REED SWITCH**





ES30EX Switch (Clamp Mounted)



ES30EX SWITCH (Rod Mounted)

See Bulletin 1002 for more Details



#### MERCURY SWITCH



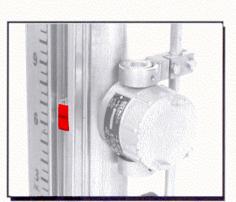
ES21 NEMA 4x ( Clamp Mounted )



ES21 NEMA 4x ( Rod Mounted )



ES21EX ( Clamp Mounted )



ES21EX (Rod Mounted)

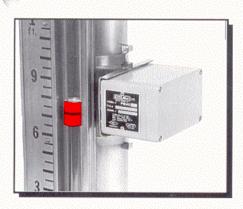
See Bulletin 1003 for more Details



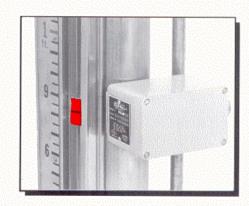


# **OPTIONAL EQUIPMENT - SWITCHES**

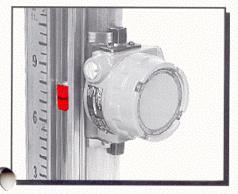
#### **MICRO-SWITCH**



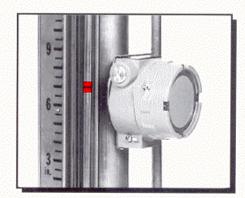
ES40 Switch ( Clamp Mounted ) NEMA 4X Fiberglass Housing



ES40 SWITCH (Rod Mounted) NEMA 4X Fiberglass Housing



ES40EX ( Clamp Mounted ) NEMA 7

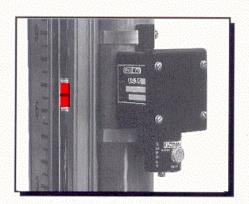


ES40EX (Rod Mounted) NEMA 7

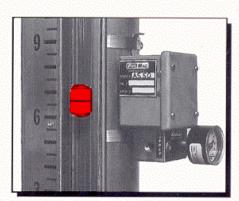
See Bulletin 1004 for more Details



#### PNEUMATIC SWITCH



**AS35** 



AS50

All Stainless Steel Construction

Input / Output Gauge Ports

See **Bulletin 1005** for more Details

# OPTIONAL EQUIPMENT CLT's / CONTROLLERS

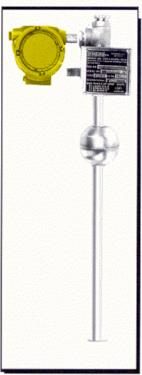
#### CONTINUOUS LEVEL TRANSMITTERS



CLT-C25 EXTERNAL

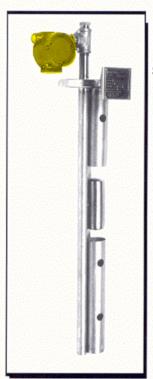
Mounted on PM-26

High Temperature Applicable



CLT-I25 INTERNAL

Guide Tube



CLT-S25 INTERNAL

Stilling Well



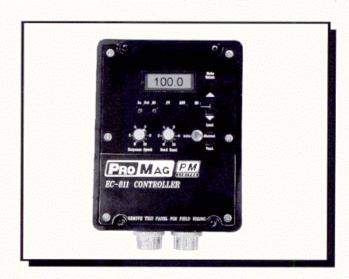
See Bulletin 1008 for more Details

#### **ELECTRO-PNEUMATIC CONTROLLERS**



**EC-808** 

See Bulletin 1009 for more Details



EC-811

See Bulletin 1010 for more Details



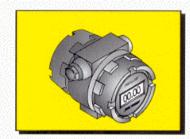
# **OPTIONAL EQUIPMENT - INDICATORS**

#### **EXPLOSION-PROOF DIGITAL INDICATORS**



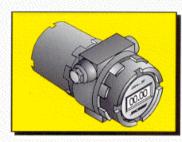
PDI-1100

LCD Display



PDI-1100T

LCD Display Transmitter

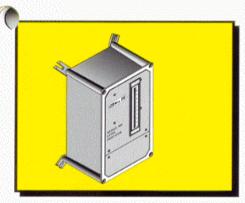


**PDI-1100PS** 

LCD Display Power Supply

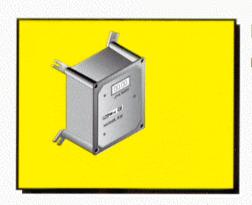
See Bulletin 1008 for more Details

#### **NEMA 4 DIGITAL INDICATORS**



MODEL 900

Bargraph Display



**MODEL 910** 

**LCD Display** 



MODELS 901, 902 903, 904

Fluorescent Display

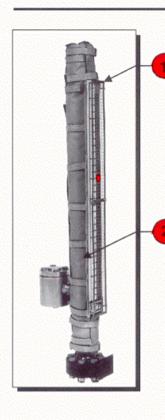


MODEL 911

**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



- \* Reduced Flashing
- ★ 375 ° F

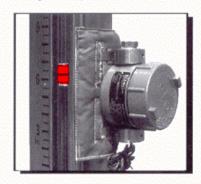
#### **CLT INSULATION PAD**

High Temperature



#### SWITCH INSULATION PAD

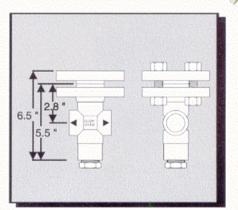
High Temperature





#### MAGNETIC TRAP

Ferrous Particle Removal







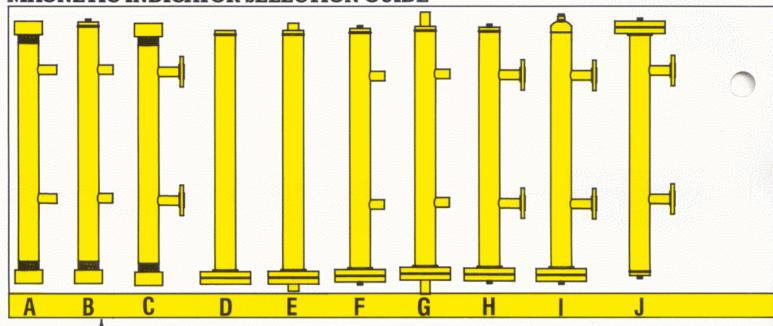


#### REOUEST FOR OUOTE / ORDERING INFORMATIO Salesman -Customer Customer Contact \_\_ APPLICATION DATA **SWITCHES** Process Fluid Electrical Part # % Concentration \_\_ ES-21 Specific Gravity ( at Operating Temp ) \_\_\_\_\_ ES-30EX Interface Specific Gravity ES-40 Pressure Design / Operating \_\_\_ \_\_\_\_/\_\_\_\_ Hazardous Classification \_\_\_\_\_ Temp Design / Operating **FABRICATION DATA** Pneumatic Block / Bleed Chamber Material \_\_ AS-35 Rising Level Process Connection Material Vent / Drain Connection \_\_\_ AS-50 Falling Level Material Supply Gas -Process Connection Rating Size Pad Mount Clamp Rod Coupling \_ (above 200 deg F) Mount Mount L Gussets Yes Support Bracket Yes OTHER OPTIONS Vent / Drain Valves CLT (Remote Transmiter) \_\_\_\_\_ (Ball, Gate, Plug, and Mfg) \_ Controllers \_\_\_ Indicators \_\_\_ INDICATION DATA Inches of Visual Indication \_ Inches of Center to Center \_\_ Indicator : Standard Flashing \_\_\_ Special Scale (Describe: Provide Drawing) Glass Tube Protector: Yes INSULATION Blanket Cryogenic Indicator Non-Frosting Protection: Steam Electric Provide Sketch HEAT TRACING Questions and / or Notations Steam L Electric (1) Are there any obstructions that will limit our dimensions on this PM-26? Reason for Heat Tracing: (2) Orientation of Scale Kit? (3) Orientation of Process Connections? Freeze Protection (4) Will you have enough clearance to remove the float from the bottom of Maintaining Process Temperature the PM-26 Chamber ? Note: Lower Specific Gravities may require a longer dead leg. PM26-

Refer to pages 12, 13, 14, and 15 to determine correct part number.

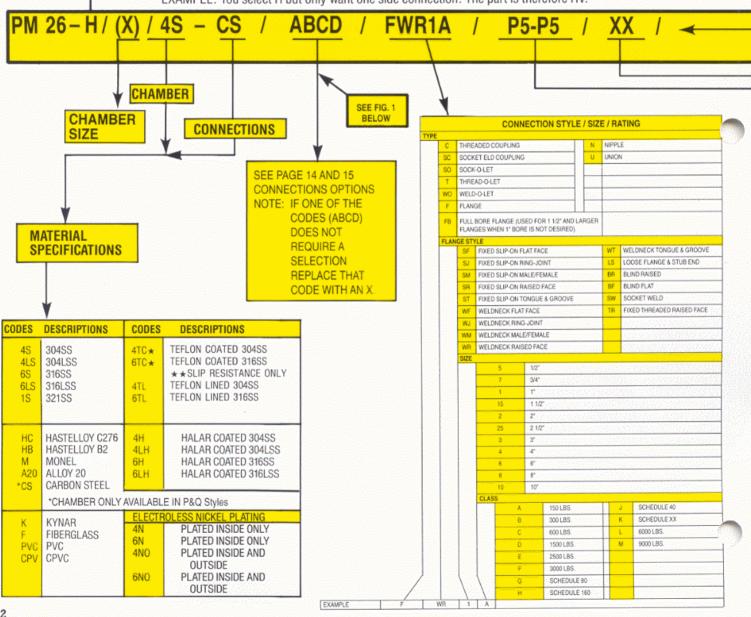
PRO MAG LTD

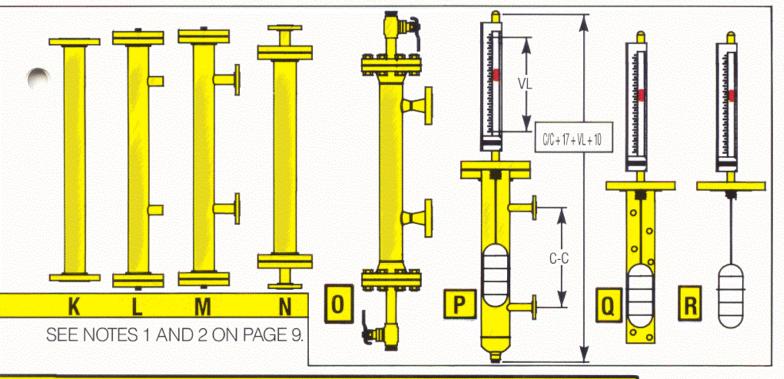




NOTE: If a configuration that you prefer does not appear above choose the one that is closest to your needs and add a V after the letter of the configuration chosen.

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





#### INCHES OF VISUAL INDICATION / CENTER - CENTER

VEN	NT / 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"	
٧7	3/4"	S7	3/4"	
1/1	1"	S1	1"	

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

CODE DESCRIPTIONS ABCD Interface applications may require additional process connections. Insert additional code(s);	
Example: M2 F0 F0 F0 R2	

FIGURE 1

OTHER OPTIONS						
В	INSULATION BLANKET	Р	POLYCARBONATE TUBE			
С	CRYOGENIC INSULATION	R	SWITCH ROD FOR HIGH			
CF	COATED FLOAT	A .	TEMPERATURE			
ET	ELECTRIC TRACING	S	SPECIAL SCALE (STAINLESS STEEL)			
ETC	ELECTRIC TRACING WITH	SB	SUPPORT BRACKET			
	CONTROLLER	SO	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			
ΔН	ACRYLIC BUILER HIGH TEMP (ABOVE	140°\				

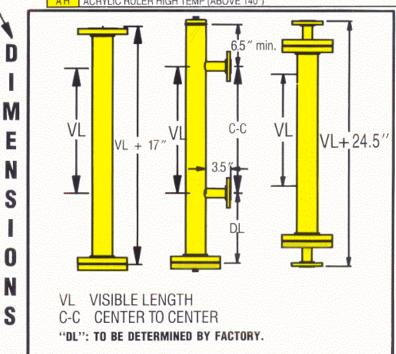
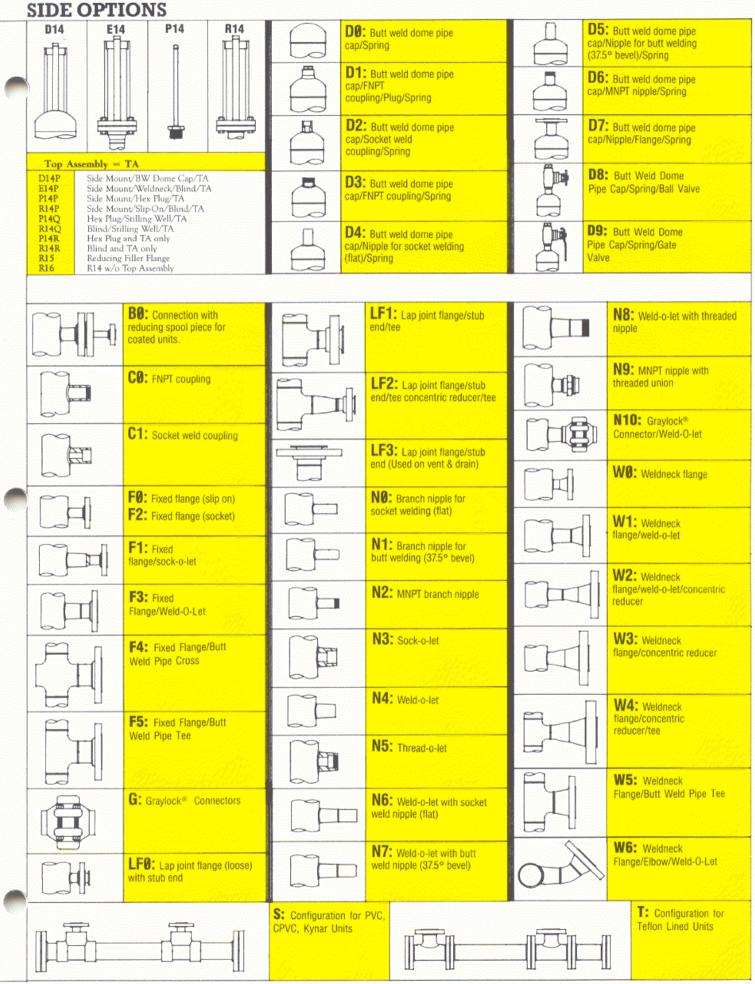


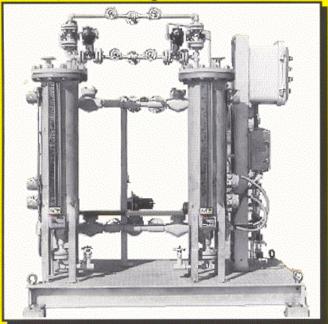
FIGURE 2

TOP AND BOTTOM OPTIONS										
	F0: Fixed flange/(slip on) F2: Fixed flange (socket)	T	<b>WØ:</b> Weldneck flange		M0: Welded flat pipe cap/Spring					
	R0: Fixed Flange/Blind Flange/Spring.		<b>E6:</b> Weldneck flange/Blind flange/Spring.	<u> </u>	M1: Welded flat pipe cap/FNPT/Spring.	0				
	R1: Fixed Flange/Blind Flange with FNPT/Spring.		<b>E1:</b> Weldneck flange/Blind flange with FNPT/Spring.		M2: Welded flat pipe cap/Plug/Spring					
	R2: Fixed Flange/Blind Flange with plug/Spring		<b>E2:</b> 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	ā	M4: Welded flat pipe cap/FNPT coupling/Spring					
	R4: Fixed Flange/Blind Flange with threaded coupling/Spring		<b>E4:</b> 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 (flat)/Spring	4	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 with butt weld nipple (37.5°		M7: Welded flat pipe cap/MNPT nipple/Spring					
	R7: Fixed Flange/Blind Flange with threaded nipple/Spring		bevell/Spring  E7: Weldneck flange/Blind flange	百	M8: Welded flat pipe cap/Nipple-Flange/Spring					
	<b>R8:</b> Fixed Flange/Blind Flange with reducing flange/Spring		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  M12: Welded flat pipe	-				
	R11: Fixed Flange/Blind Flange		E10: Weldneck Flange/Blind Flange with spring/plug or ball valve		cap/spring/gate valve					
	with spring/2 plug or ball valves				T0: Threaded pipe cap (3000#)/Spring. Sch 40 min.					
	D40.		E11: Weldneck Flange/Blind Flange with spring/2 plug or ball valve		T1: Threaded pipe cap (3000#)/Spring. Sch 40 min.					
	R12: Fixed Flange/Blind Flange with gate valve/Spring				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		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)					
	H. Hex plug		flange with 2 gate valves/Spring		CR1: Concentric Reducer/ Flange/Spring	7				



# Applications only limited by your Imagination!

On site Time/ Rate measurement Units, Skid Packages.



Unmanned Sub Ballast Tank.



Seal Oil Chambers



**Pressure Powered Separators** 



Revised 1/99

**Home Office and Manufacturing** 

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