

Products

- Additive dosing skid (for MS & HSD)* Blue dye dosing skid (For SKO)
- Marker dosing skid, Odoriser injection skid (for LPG)
- Friction Buster & Dye injection skid (for MS)
- Lubricity additive & Cetane Improver skid (For HSD)
- Additive injection panel.
- Gas, LPG metering Skid.
- Liquid Filtration skid.
- Basket strainer.
- Basket strainer cum air eliminator.
- Bulk air eliminator.
- Prover tank.
- Gas separator.
- Pig launcher and Receivers.
- Turbine flow Straightener.
- Sr. Orifice and USM meter run as per AGA standard.
- Air receiver.
- Condensing Pot.
- Air Header.
- Relaxation Chamber.

Support

whether you are an OEM or responsible for optimizing the daily maintenance, repair, and operation of your facility, you can contact us for support with technical details, product selection, and equipment design.

Contact Cryogenic Liquide for details

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Solution for Metering, Dosing Blending & Terminal Automation

Cryogenic
L i q u i d e
www.cryogenicliquide.com

Solution for Metering, Dosing, Blending for Terminal Automation :

Cryogenic Liquide Pvt Ltd a self made engineering company established in 2003 & ISO 9000 : 2008 company, manufactures wide range of products for different sectors of the market like Energy, Oil and Gas, Power, Chemical, Automobile industry.

Cryogenic Liquide Pvt Ltd is located at POR GIDC, 20 Kms from Baroda Towards Mumbai on National Highway no. 8 in the State of Gujarat.

We Develop and Manufacture Equipments that are Consistent in Quality and Designed as per Customers Specifications/Requirements. The Company has Manufactured Equipments for All Leading Terminal Automation Contractor in India for Various Oil Marketing Company.

We are highly Experienced, Qualified, Reliable and Resourceful Team of Engineers Working in this field for last seven years. We have credit & Track Record of giving Quality work within Stipulated time frame as specified by customer.



We have Worked with third party Inspection Agencies like EIL, MECON, PDIL, JACOB H & G, DNV, BVIS, SGS, IRS, LLOYDS, PABSTA, TUV, TATA PROJECTS. ETC.



List of Customers :

- Indian Oil Corporation Limited
- Bharat Petroleum Corporation Limited
- Hindustan Petroleum Corporation Limited
- Daniel Measurement & Controls India Pvt Ltd
- Reliance Industries Limited
- Larson And Toubro Ltd. Ebg
- Larsen And Toubro Ltd Mhi Division
- Chemtrols Industries Limited
- G E Oil And Gas Measurement And Control
- Thermax Ltd
- Endress + Hauser India Pvt Ltd
- Adani Ports And Special Economic Zone Ltd
- Areva T & D
- Jindal Saw Ltd
- F. Harley And Co.
- Gulbrandsen Chemicals USA
- Asta Inc USA
- T D Williamson
- Liquid Controls India Pvt Ltd. Idex Corp.
- Welspun Gujarat Ltd.
- Banco Products Ltd.
- Tyco Valves And Controls India Ltd Pent Air
- Cairn Energy India Ltd
- Emerson Process Management
- Alstom India Ltd
- ABB India Limited
- Voith Hydro Pvt Ltd
- Cardolite

Basket Strainer :

Cryogenic offers Basket type strainers for variety of installations and conditions and designed for straining and filtering of wide variety of fluids. As unfiltered liquid enters the strainer will directly passes through basket in which almost all impurities trapped into the basket and only clean liquid will pass through the outlet of strainer. Advanced dynamic flow and large filtration area elements ensure low pressure drops and reduce maintenance period. Also it is designed such that it will not allow any bypassing of the liquid without filtration as basket is prevented by "O" Ring seal between basket flange and strainer internal flange. As well as retain position of basket even in case of reverse flow. Basket strainers are normally installed before the measuring devices like Positive displacement meter or turbine meter which increases accuracy of the measuring devices. We offer basket type strainers from 1" to 24" size with flow range upto 900 m3/hr or more & for pressure range up to 100 bar & design as per ASME Section VIII div I latest edition.

Duplex Basket Strainer :

Duplex basket strainers are used mainly where continuous operation without shutdown is required. In this type of design flow will bypass and re-enter to main product line. This allows one side for service when other stream is into operation. Normally Duplex filters are equipped with two way ball valve with equalizing tee, between two basket filter body.

We have credit of supplying a more than 3200 units by 2014.

Ordering Information :

CRL – ST – T1 03 F1 A

B1 C1 P2 A123

1) Type of strainer

T1 Simplex.
T2 Duplex.
T3 Jacketed.

T1

2) Nominal Size mm

00-1" (25 mm)	04-4" (100 mm)	09-14" (350 mm)
01-11/2" (40 mm)	05-6" (150 mm)	10-16" (400 mm)
02-2" (50 mm)	06-8" (200 mm)	11-18" (450 mm)
03-3" (80 mm)	07-10" (250 mm)	12-20" (500 mm)
	08-12" (300 mm)	13-24" (600 mm)

03

5) Basket and Mesh size

B1 Basket with SS 316 - 100 mesh
B2 Basket with SS 316 - 80 mesh
B3 Basket with SS 316 - 60 mesh
B4 Basket with SS 316 - 40 mesh
B5 Basket with SS 316 - 20 mesh
B6 Customized basket with wire mesh size.

B1

6) Flow range – capacity operating

C1 0 to 500 LPM	C6 0 to 4200 LPM
C2 0 to 1000 LPM	C7 0 to 6000 LPM
C3 0 to 1500 LPM	C8 0 to 8000 LPM
C4 0 to 2400 LPM	C9 0 to 10000 LPM
C5 0 to 3200 LPM	C10 Other Flow rate customized.

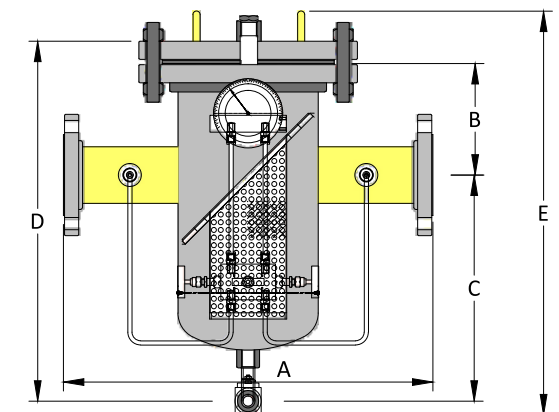
C1

Features and Benefits :

- Strainers are bidirectional. it can be installed for flow direction Left to Right as well Right to Left.
- Baskets are easily removable.
- Large Filtration Area.
- Carbon Steel or Stainless Steel Housing.
- Normally design for free flow area through screen, 2-3 times pipe flow area. higher can be designed.
- Fasteners will be ASTM A 193 Gr B7/ASTM A 194 Gr.2H
- Carbon steel housing are grit blasted, Epoxy primer coated and finally painted with Epoxy paint.
- Covers are spiral wound gasket sealed.
- Gaskets and Seals are Viton, Nitrile, Buna N, PTFE, Graphite etc.
- Strainers are supplied with differential pressure gauge with optional reed switch, manifold 3 valve with complete tubing and fittings.

Basket Strainer Dimension For 150#. For Other Class Please Consult our Factory :

SIZE		A END TO END NOZZLE	B TOP FLANGE TO NOZZLE	C NOZZLE CENTRE TO DRAIN	D TOP COVER TO BOTTOM DRAIN	E OVERALL	WEIGHT IN KGS
INCHES	MM						
1.5	40	450	125	361	515	625	45
2	50	450	125	361	515	625	48
3	80	580	175	320	535	650	71
4	100	580	200	345	585	675	76
6	150	775	250	750	1040	1250	310



3) Flange rating

F1 – ANSI B 16.5 150#
F2 – ANSI B 16.5 300#
F3 – ANSI B 16.5 600#
F4 – ANSI B 16.5 900#
F5 – ANSI B 16.5 1500#
*All Flanges are Slip on raised face type (SORF) if WNRF or RTJ Flanges are required please specify .

F1

4) Material of construction

A. ASTM A 106 Gr.B (BODY) & ASTM A 105 (FLANGES)
B. IS 2062 GR.B (BODY) & ASTM A 105 (FLANGES)
C. ASTM A 312 TP 304 (BODY) & ASTM A 182 F 304 (FLANGES)
D. ASTM A 312 TP 316 (BODY) & ASTM A 182 F 316 (FLANGES)
E. ASTM A 516 GR 70 (BODY) & ASTM A 105 (FLANGES)
F. ASTM A 333 GR 6 (BODY) & ASTM A 350 LF2 (FLANGES)

A

7) Operating pressure

P1 0 to 6 KG/CM2
P2 0 to 10 KG/CM2
P3 0 to 25 KG/CM2
P4 0 to 50 KG/CM2
P5 0 to 75 KG/CM2
P6 0 to 100 KG/CM2

P2

8) Accessories

A1 Ball valve for drain and vent.
A2 Differential pressure gauge with manifold & tubing.
A3 Companion flange with fasteners and gasket.
A4 Differential pressure gauge with reed switch, manifold & tubing.

A123

*Kindly specify If different MOC is required.

Strainer Cum Air (vapour) Eliminator :

Cryogenic offers strainer cum Air Eliminator for variety of installations and conditions and designed for straining and filtering and elimination of air / vapour from variety of fluids. As unfiltered liquid enters the strainer cum air eliminator will directly passes through basket in which almost all impurities trapped into the basket and air and vapour travel on the top of the equipment and only clean liquid without air or vapour content will pass through the outlet of strainer cum air eliminator. Advanced dynamic flow and large filtration area elements ensure low pressure drops and reduce maintenance period. Also it is designed such that it will not allow any bypassing of the liquid without filtration as basket is prevented by "O" Ring seal between basket flange and strainer internal flange. As well as retain position of basket even in case of reverse flow. This is combination of filtration and elimination space will be reduced which is most common considerable factor for design of Tank Truck Gantry and Tank Wagon Gantry. Strainer Cum Air Eliminators are normally installed before the measuring devices like Positive displacement meter or turbine meter or Mass Flow Meter which increases accuracy of the measuring devices. It is used when major part of air is eliminated by header Air Eliminator near storage tank / pump house and very few amount of air / vapour is to be released during tank / wagon loading.

We offer Strainer Cum Air Eliminators from 1" to 24" size with flow range upto 1800 m³/hr (30000 LPM) for pressure range upto 100 bar & design as per ASME Section VIII div I latest edition. we also offer duplex and jacketed type Strainer cum Air Eliminators.

We have credit of supplying a more than 1000 units by 2014.

Ordering Information :

CRL – STAE – T1 03 F1 A

B1 C1 P2 A123

1) Type of strainer

T1 Simplex.
T2 Duplex.
T3 Jacketed.

T1

2) Nominal Size mm

00-1" (25 mm)	04-4" (100 mm)	09-14" (350 mm)
01-1 1/2" (40 mm)	05-6" (150 mm)	10-16" (400 mm)
02-2" (50 mm)	06-8" (200 mm)	11-18" (450 mm)
03-3" (80 mm)	07-10" (250 mm)	12-20" (500 mm)
	08-12" (300 mm)	13-24" (600 mm)

03

5) Basket and Mesh size

B1 Basket with SS 316 - 100 mesh
B2 Basket with SS 316 - 80 mesh
B3 Basket with SS 316 - 60 mesh
B4 Basket with SS 316 - 40 mesh
B5 Basket with SS 316 - 20 mesh
B6 Customized basket with wire mesh size.

B1

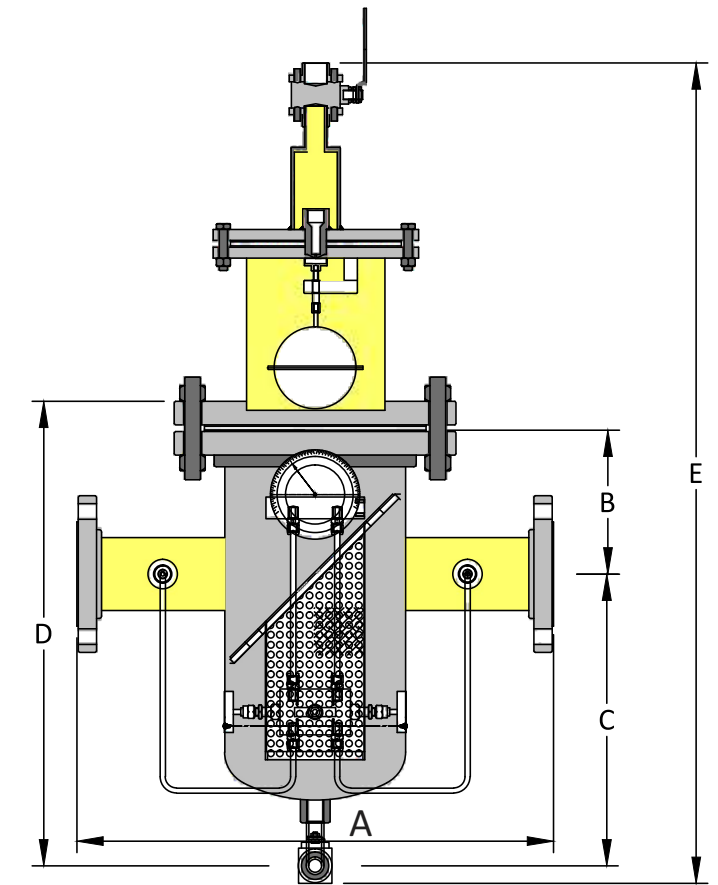
6) Flow range – capacity operating

C1 0 to 500 LPM	C6 0 to 4200 LPM
C2 0 to 1000 LPM	C7 0 to 6000 LPM
C3 0 to 1500 LPM	C8 0 to 8000 LPM
C4 0 to 2400 LPM	C9 0 to 10000 LPM
C5 0 to 3200 LPM	C10 Other Flow rate customized.

C1

Strainer Cum Air Eliminator Dimension For 150#. For Other Class Please Consult Our Factory :

SIZE		A	B	C	D	E	WEIGHT
INCHES	MM	END TO END NOZZLE	TOP FLANGE TO NOZZLE	NOZZLE CENTRE TO DRAIN	TOP COVER TO BOTTOM DRAIN	OVERALL	IN KGS
1.5	40	450	125	361	515	950	55
2	50	450	125	361	515	950	58
3	80	580	175	320	535	1000	85
4	100	580	200	345	585	1050	90
6	150	775	250	750	1040	1550	335



3) Flange rating

F1 – ANSI B 16.5 150#
F2 – ANSI B 16.5 300#
F3 – ANSI B 16.5 600#
F4 – ANSI B 16.5 900#
F5 – ANSI B 16.5 1500#
*All Flanges are Slip on raised face type (SORF) if WNRF or RTJ Flanges are required please specify .

F1

4) Material of construction

A. ASTM A 106 Gr.B (BODY) & ASTM A 105 (FLANGES)
B. IS 2062 GR.B (BODY) & ASTM A 105 (FLANGES)
C. ASTM A 312 TP 304 (BODY) & ASTM A 182 F 304 (FLANGES)
D. ASTM A 312 TP 316 (BODY) & ASTM A 182 F 316 (FLANGES)
E. ASTM A 516 GR 70 (BODY) & ASTM A 105 (FLANGES)
F. ASTM A 333 GR 6 (BODY) & ASTM A 350 LF2 (FLANGES)

A

7) Operating pressure

P1 0 to 6 KG/CM2
P2 0 to 10 KG/CM2
P3 0 to 25 KG/CM2
P4 0 to 50 KG/CM2
P5 0 to 75 KG/CM2
P6 0 to 100 KG/CM2

P2

8) Accessories

A1 Ball valve for drain and vent.
A2 Differential pressure gauge with manifold & tubing.
A3 Companion flange with fasteners and gasket.
A4 Differential pressure gauge with reed switch, manifold & tubing.

A123

*Kindly specify If different MOC is required.

Air Eliminator :

Cryogenic offers Air Eliminators for variety of installations and conditions and designed for separation, Elimination of air from the Liquid. without allowing the contained liquid to escape.

Positive Displacement meter, is a volumetric measuring device can not differentiate between liquid, air and vapour. So when liquid enters with air or vapour into this measuring devices it will contribute the measurable error.

Large amount of free air or vapour entrapped in the piping system, not only compromising meter accuracy but also lead to over speeding of meter and also creating excessive wear or unit failure.

To ensure accurate liquid Measurement, it is necessary to remove all air from the system before entering into the measuring devices.

Hence Air Eliminator is installed before the meter for accuracy of the measurement devices. We also offers Split type Air Eliminators for fuels like Aviation Turbine Fuel where frequent cleaning is required.

We offer Air Eliminators from 25 ltrs to 6000 ltrs with size of 1.5" to 24" with 150# to 600# with design as per ASME Section VIII div I

We have credit of supplying a more than 2100 units by 2014.

Principle of Operation :

Air Eliminator consists of top nozzle housing with float assembly which is made up of float and guide rod. Now when product is entered into air eliminator which consists of air / vapor through inlet nozzle it enters into large open vessel area which decrease the velocity of the fluid and try to bring liquid to the stable state and as flow strike to the baffle plate which separates liquid and air / vapor which again travel to the top of the vessel and release through the float assembly. Now when air is released and further liquid level is rise up to float assembly will push this assembly up and close the orifice area.

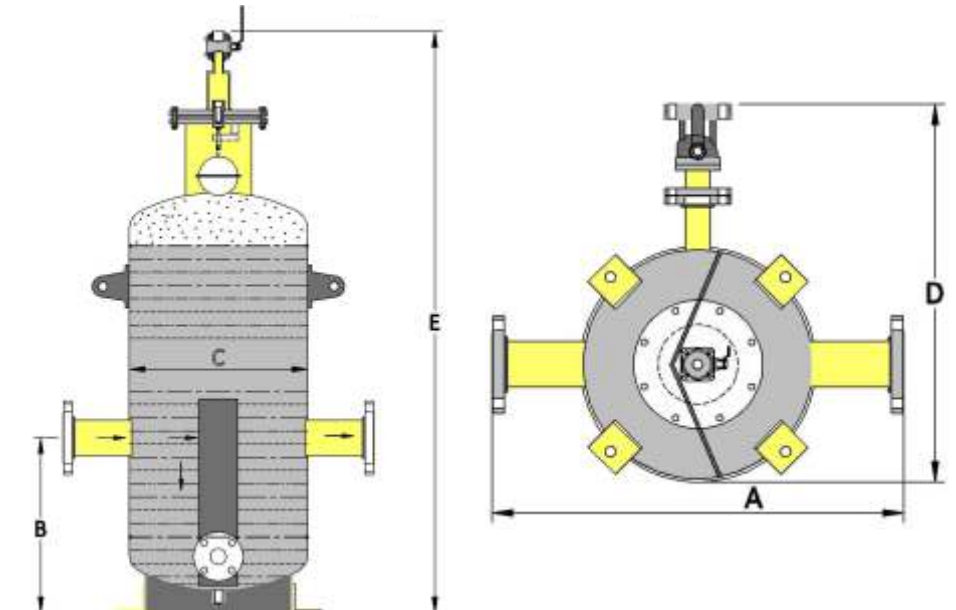
Now when more air is coming into the system or vapor is generated it will again travel to the top and accumulate in the top housing and at a certain stage when collected air /vapor forces liquid level down, buoyant force acting on the float reduces, this will reduce float buoyancy and float drops down which allows air / vapor to escape through the seat orifice. Now as fluid replaces air, Float buoyancy again increases and allowing float to rise and close to orifice seat.

Benefits :

- Air Eliminators are bidirectional. it can be installed for flow direction Left to Right as well Right to Left.
- Verticle design which reduces installation space.
- Simple interface with PD Meter, Mass Flow Meter, Turbine Meter
- If Used with Thermal Relief Valve protects all system componenets.
- Accurate Measurement.
- No complicated design for maintenance.
- Zero drain facility.
- Stainless Steel internals.
- Higher air eliminator retention time can be customized.

Air Eliminator Dimension For 150#. For Other Class Please Consult Our Factory :

SIZE		A END TO END DIMENSION	B NOZZLE ELEVATION	C DIAMETER	D END TO END WITH DRAIN VALVE.	E TOTAL HEIGHT	VOLUME IN LTRS
INCHES	MM						
1.5	40	600	300	323	525	1375	50
2	50	600	300	323	525	1375	50
3	80	800	450	457	740	1525	135
4	100	970	500	610	875	1625	240
6	150	1200	600	711	975	1750	360



Ordering Information :

CRL – AE – 02 F1 A F2 P1 A12

1) Nominal Size mm

00-1.5" (40 mm)	04-6" (150 mm)	09-16" (400 mm)
01-2" (50 mm)	05-8" (200 mm)	10-18" (450 mm)
02-3" (80 mm)	06-10" (250 mm)	11-20" (500 mm)
03-4" (100 mm)	07-12" (300 mm)	12-24" (600 mm)
	08-14" (350 mm)	

3) Material of construction

A. ASTM A 516 GR.70 (BODY) & ASTM A 105 (FLANGES)
B. IS 2062 GR.B (BODY) & ASTM A 105 (FLANGES)
C. ASTM A 240 TP 304 (BODY) & ASTM A 182 F 304 (FLANGES)
D. ASTM A 240 TP 316 (BODY) & ASTM A 182 F 316 (FLANGES)
E. ASTM A 106 GR B (BODY) & ASTM A 105 (FLANGES)
F. ASTM A 333 GR 6 (BODY) & ASTM A 350 LF2 (FLANGES)

5) Operating pressure (Normal)

P1 0 to 6 KG/CM2
P2 0 to 10 KG/CM2
P3 0 to 15 KG/CM2
P4 0 to 25 KG/CM2
P5 0 to 35 KG/CM2
P6 0 to 60 KG/CM2

*Fasteners will be ASTM 193 Gr B7 / ASTM A 194 Gr 2H.

2) Flange rating

F1 – ANSI B 16.5 150#
F2 – ANSI B 16.5 300#
F3 – ANSI B 16.5 600#

*All Flanges are Slip on raised face type (SORF) if WNRF or RTJ Flanges are required please specify .

4) Flow range

F0 0 to 1000 LPM	F5 0 to 7500 LPM
F1 0 to 1500 LPM	F6 0 to 10000 LPM
F2 0 to 2500 LPM	F7 0 to 15000 LPM
F3 0 to 4000 LPM	F8 0 to 20000 LPM
F4 0 to 5000 LPM	F9 Specific Flow rate.

6) Accessories

A1 Ball valve for drain and vent.
A2 Thermal safety valve / Pressure Relief Valve.
A3 Pressure gauge.
A4 Companion flange with studs and gasket.
A5 Flame arrestor.
If you want to order all above items kindly insert as A12345.

*All Gaskets are spiral wound with PTFE or Graphite Filler

Prover Tank :

Cryogenic offers Prover tank of capacity 50 ltrs to 5000 ltrs with different of material of construction and designed as per IS – 2341 code under the certification of weights and measures.

We offer stationary as well as mobile prover tanks for use in checking commercial bulk measures, vehical tanks, bulk meters etc. these are all made with same accuracy and quality as the smaller test measures. This provers are easy to use, reliable, and low cost way to measure the output accuracy of liquid metering equipment.

For oil companies it is necessary to concern fairness and accuracy when liquids are sold, so after necessary time frame it is required to calibrate measuring devices.hence this prover tanks are portable in nature and prove the accuracy of measuring devices on site.

We have credit of supplying a more than 200 units by 2014.

Technical Specification :

Pump Rating : 12 M3 /hr To 30 M3/hr
Head : 12 Mtrs To 30 Mtrs.
Motor : 3 H.p (2.2 K W) 2900 rpm Three Phase
Gauge Glass Resolution : +0.1% Of Tank Capacity.
Displacement Tube Volume : +0.5% Of Tank Capacity.
Side Glass And Cock: Provided At Bottom.

Spirit Level : Provided 02 Nos At 90 Degree.
Temperature Gauge : Provided 03 Nos at Different Elevation.
Isolation Valve : Inlet And Outlet Valve Is Provided.
Top Loading Arrangement : 4" Provided For Loading Arm
Drain Valve : Provided For Zero Decantation.
Scale Graduation : As Per API MPMS CHAPTER IV.

Ordering Information :

CRL – PVR – A G C T2 A12345

A

1) Material of Construction
A. IS 2060 GR.B
B. SA 516 GR.70
C. ASTM A 240 TP 304
D. ASTM A 240 TP 316

G

2) Capacity of Prover Tank
A. 50 litres E. 1000 litres
B. 100 litres F. 1500 litres
C. 200 litres G. 2000 litres
D. 500 litres H. 5000 litres
I. ANY CUSTOMIZED CAPACITY

C

3) Inlet / Outlet Connection
A. 1" (25 mm)
B. 2" (50 mm)
C. 3" (80 mm)
D. 4" (100 mm)
E. 6" (150 mm)
F. 3" (80 mm) Intel /4"(100 mm) Outlet

T2

4) Type of Prover Tank
T1 Fixed type with skid base
T2 Mobile prover tank with Leveling jack.
T3 Mobile prover tank for Rail Wagon.

A12345

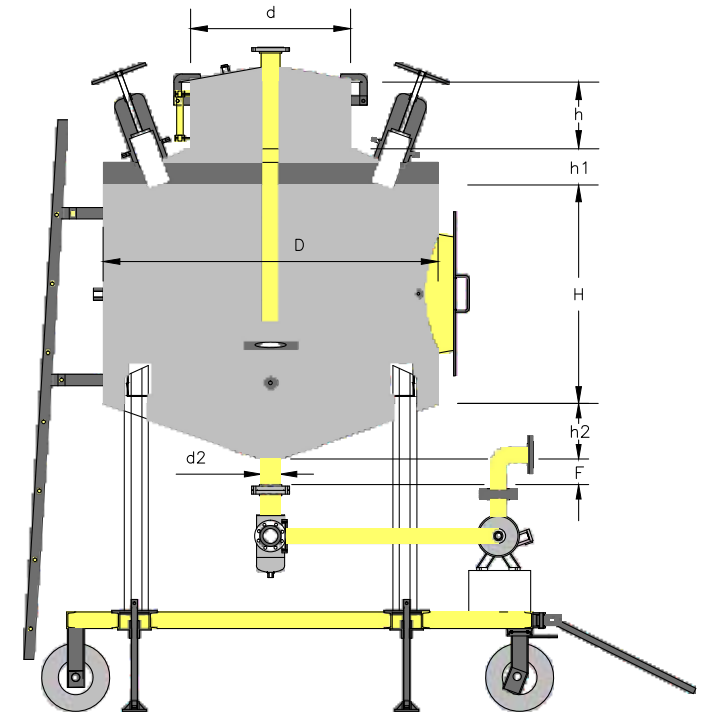
5) Accessories
A1 With decanting pump and motor
A2 Flexible hose - 3 mtr length.
A3 DOL starter for motor.
A4 Temperature Gauge (3 location)
A5 Inlet / Outlet Ball Valve
* Pump as per Manufacturers standard and Motor will be IP 55 Flame Proof.

*All Flanges are slip on raised face SORF type.

Dimensions Of The Calibrating Measure :

Dimension Of Large Metric Capacity Calibrating Measures (Clause 4.1 IS 2341-1963) All dimensions in millimetres.								
CAPACITY Litres	D	H	d	h	h1	h2	F	d2 (Nominal)
50	440	273	100	400	62	62	40	100
100	540	368	125	400	76	80	50	100
200	680	464	200	400	88	105	60	100
500	920	637	300	400	113	149	75	100
1000	1160	801	400	400	138	193	90	100
1500	1330	915	500	400	151	222	98	100
2000	1480	979	600	400	160	250	105	100
5000	2020	1311	1000	400	186	350	125	100

Note : Tolerances on dimensions ± 5%.



Additive and Blue Dye Dosing Skid :

Cryogenic offers Additive dosing system is a very flexible System for the continuous and fully automatic dosing of additives into the main product line.

We offer different dosing skid depending on the number of Loading points for different process parameters. with this in line dosing system mixed products can be produced automatically and economically.

It maily consists of additive storage tank, metering pump with flameproof motor, strainer, pulsation dampener, pressure gauge, non return valve, ball valve, back pressure valve to maintain the dosing pressure , base skid etc. product loading pump can be supplied along with the additive dosing skid.

The additive system can also be used for fuel colouring like Blue dye and marker dosing system.

We offer additive dosing skid for MS, HSD, SKO.

Proof of our quality and excellent price is the fact that over 400 units were delivered to our customers by 2014.

The most important users of our additive systems are corporates like Indian Oil Corporation Limited, Bharat Petroleum Corporation Limited, Hindustan Petroleum Corporation Limited.

Ordering Information :

Model : Dosing Skid CRL – DS – T1 03 A B F2 1 P2 A1

T1

1) Material (TANK, VALVE, PIPING)

- A. ASTM A 240 TP 304
- B. ASTM A 240 TP 316
- C. As per customers requirement.

03

2) Tank capacity

- 1. 100 ltrs
 - 2. 200 ltrs
 - 3. 300 ltrs
 - 4. 500 ltrs
 - 5. 1000 ltrs
 - 6. 1500 ltrs
 - 7. As per customers requirement.
- Note : for other than above specified capacity kindly consider nearest level tank capacity say for 160 ltrs pls consider 2. (200 ltrs)

F2

5) Capacity of Pump – Flow range

- F1 0 to 25 LPH
- F2 0 to 200 LPH
- F3 0 to 400 LPH
- F4 0 to 600 LPH
- F5 0 to 800 LPH
- F6 0 to 1200 LPH
- F7 0 to 1600 LPH
- F8 0 to 2000 LPH
- F9 0 to 2500 LPH
- F10 0 to Specified capacity by client.

1

6) Type of additives

- 1. For HSD, M.S
- 2. For SKO (Blue dye and marker)
- 3. Other.

A

3) No. of Pump with Motor

- A. SINGLE PUMP
- B. DOUBLE PUMP (STAND BY)

B

4) Type of Pump

- A. Plunger type metering pump
- B. Diaphragm type metering pump
- C. Screw pump

P2

7) Minimum required discharge pressure At discharge of dosing skid.

- P1 0 to 4 KG/CM2
 - P2 0 to 8 KG/CM2
 - P3 0 to 16 KG/CM2
 - P4 0 to 20 KG/CM2
 - P5 0 to 30 KG/CM2
 - P6 0 to 50 KG/CM2
- *Specified capacity by client.

A1

8) Level switch / Level transmitter at additive tank.

- 1. Not required.
- 2. Top mounted.
- 3. Side mounted.

*Standard Flanges are slip on raised face SORF type if WNRF is required Please Specify.

*Please Specify if barrel pump is required.



Additive Injection Panel (Block) :

Cryogenic offers Additive injection panel is widely used for injecting additives into main product line (HSD, MS, SKO). This additive injection panel is installed mainly at distribution facilities.

It is very accurate in nature with low pressure drop.

It maily consists of additive oval gear meter, solenoid valve, strainer, check valves, needle valves and completely mounted on stainless steel / Aluminum panel.

Proof of our quality and excellent price is the fact that over 250 panels were delivered to our customers by 2014.

The most important users of our additive injection panels are the corporates like Indian Oil Corporation Limited, Bharat Petroleum Corporation Limited, Hindustan Petroleum Corporation Limited.

Model No :

Crl-ATV-01 (Additive Panel With Barrier And Junction Box)

Crl-ATV-02 (Additive Panel Without Barrier With Junction Box)

Crl-ATV-03 (Additive Panel Without Barrier And Without Junction Box)

Standard Additive Panel CRL-ATV Consists of Following Material :

Technical Specifications :

Oval Meter: Oval Wheel – SS 316 ,body – SS 316,

Bearing – Hard Graphite / SS 316/ Ceramic

Flow Range : 25 – 250 Lph.

Accuracy : +/- 0.5% (In The Range Of 50-250 Lph)

Repeatability – 0.2%

End Connection : ½” nptf

Operating Temperature – Upto 100 Degree C.

Operating Pressure – 25 Bar.

Pulse Tranmitter – Ag 43

CE Approved.



Solenoid Valve :

Type – Normally Closed.

Working Pressure – 0 To 9 Bar.

Supply – 230v A.c 50hz. (consult For 12V Or 24 Vdc)

Cable Entry – ½”Nptf

Preocess Connection : ¼” Nptf. (consult For 3/8” Or ½”)

Approvals : FLP To Group IIA,IIB

Moc – SS 316

Check Valve : Stainless Steel S316,1/4”O.D.x ¼” O.D. (consult For 3/8” Or ½”)

Needle Valve : SS 316 ¼” O.D. X ¼” O.D. (consult For 3/8” Or ½”)

Strainer : SS 316 Y Type 100 Mesh ¼” O.D. X ¼” O.D.
(consult For 3/8” Or ½” Or For Any Mesh Other Than 100)

Tubing : ¼” O.D. SS 316 (consult For 3/8” Or ½”)

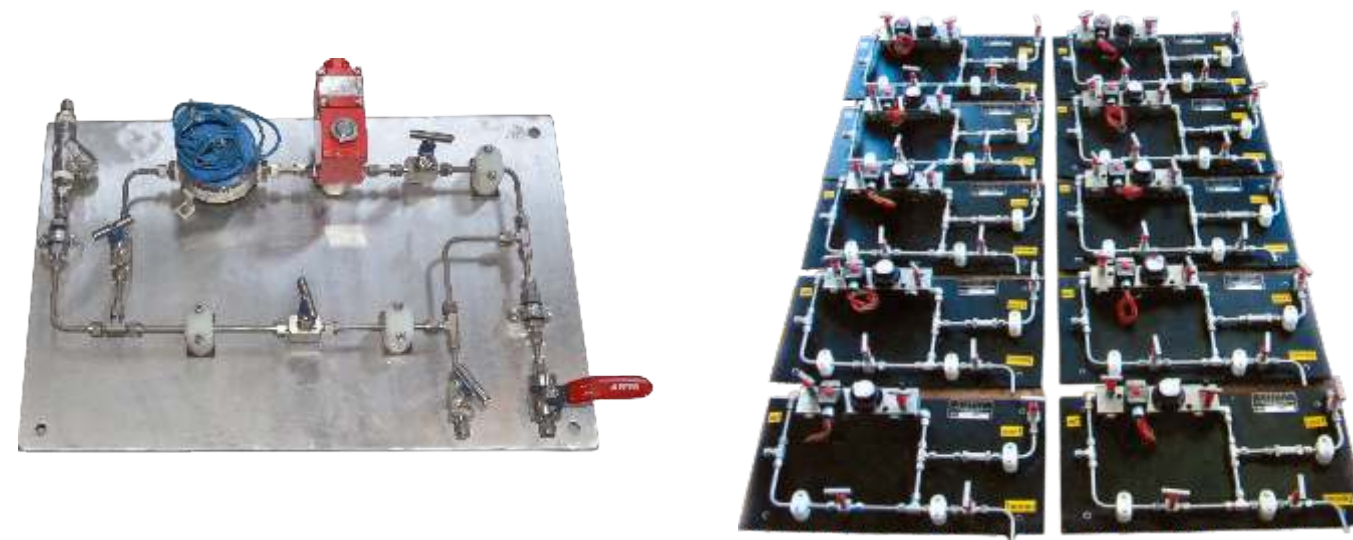
Dimension : 600 mm L X 400 mm W X 3 mm Thk. SS 316/Aluminium

Approximate Weight – 12 Kgs.

Inlet / Outlet Connection of Panel : ¼” O.D X ¼” O.D. (consult For 3/8” Or ½”)

Barrier : Suitable For P.D. Meter, Atex, CE Approved.

Junction Box – FLP Available On Request.



Liquid and Gas Filtration and Metering Skid :

Cryogenic manufacture complete skid for liquid and gas for measurement, control and filtration. this skids are fabricated with latest codes and international standard. metering system is manufactured for crude oil and hydrocarbon products such as LPG, Fuel Oil, Motor Spirit, Diesel, Kerosene.

Cryogenic normally manufacture skids as per general arrangement drawings, P & ID provided by contractor who is overall system integrator. we design and detail piping, skid, platform static equipments as per clients datasheet. Major capital items like flow meter, Batch controller, PLC, instruments are free issued by clients or can be purchased and integrate by us with due consultation with client.

We have wide range of approved WPS, PQR AND WPQ as per ASME SEC IX for different grade and class of materials and welding process of SMAW, GTAW, MIG. if required we can qualify WPQRs as per custom clients requirement as and when required.

This skids are mainly consists of :

- Flow meter (PD Meter, Mass Flow Meter, Turbine Meter, Ultrasonic Flow Meter)
- Filters
- Air Eliminators
- Flow Straighteners.
- Digital Control Valves (Diaphragm or Piston Type)
- Valves and Piping.
- Instrumentation (Pressure and Temperature)
- Electrical (cabling and termination)
- Batch Controller Unit.

Application :

- Marketing and Distribution.
Truck loading facility (TLF)
Tank Wagon Loading (TWL)
Transportation and distribution of hydrocarbon.
Manufactured and Supplied more than 200 skids which is installed in domestic as well as globally.



Mobile Type Master Flow Metering Trolley :

Cryogenic offers Mobile type Master flow metering skid consisting of Flow meter, Batch controller, strainer, Air eliminator, DCV, manifold with piping valves, 5 meter steel braided hose, fitting etc. This is mainly used for calibration of flow meter already installed in Gantry. This is used as in series with flow meter installed in gantry.

This flow meter can be PD Meter, Mass Flow meter or Turbine Meter with DCV piston type or Diaphragm Type with Strainer and Air Eliminator separate Unit or Combined unit. Main advantage of this unit is mobile in nature and able to calibrate installed PD meter from one end to last gantry end in least time.

Cryogenic also offers skid based flow metering skid with combination as per customer's requirement.

Ordering Code :

- CRL-MMT-01 (Air Eliminator + Strainer + Pd Meter + Dcv + Batch Controller)
- CRL-MMT-02 (Strainer Cum Air Eliminator + Pd Meter + Dcv + Batch Controller)
- CRL-MMT-03 (Air Eliminator + Strainer + Mass Flow Meter + Dcv + Batch Controller)
- CRL-MMT-04 (Strainer Cum Air Eliminator + Mass Flow Meter + Dcv + Batch Controller)
- CRL-MMT-05 (Customized Metering Assembly).

*All above metering is in 150# if other class is required please consult factory



Air Receiver :

Air Receiver / Volume Bottle / Pressure Vessel

Air Receiver are tanks used for the compressed air storage and recommended to be in all compressed air system. Using air receiver of unsound or questionable construction can be very dangerous. Therefore, the American Society of Mechanical Engineers (ASME) has developed a code regarding the construction of unfired pressure vessels, which has been incorporated into many federal, state and local laws. This particular code is ASME Code Section VIII Division 1.

We have manufactured more than 40 Nos. till 2014.

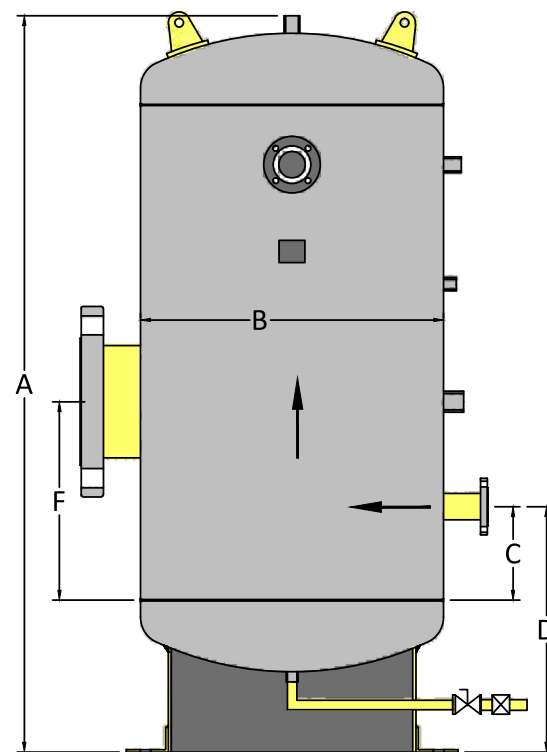
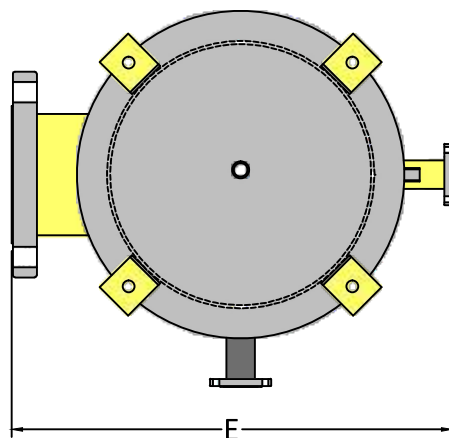
We have manufactured Air receiver of capacity 0.1 M3 to 5M3 as per ASME Code Section VIII Division 1.

Air Receivers are equipped with Safety valve, Pressure Gauge, Pressure switch, Hand holes or Manholes and a base for vertical air receiver.

Air Receiver serves Several Important Purpose

1. Decrease wear and tear on the compression module, capacity system and motor by reducing excessive compressor cycling.
2. Eliminate pulsation from the discharge line.
3. Separate some of the moisture, oil and solid particles that might be present from the air as it comes from the compressor.
4. Contribute to reduced energy costs by minimizing electrical demand charges associated with excessive starting of the compressor motor.

AIR RECEIVER STANDARD DIMENSION TABLE						
VOLUME CAPACITY	TOTAL HEIGHT A	OUT SIDE DIAMETER B	INLET NOZZLE ELEVATION FROM SHELL C	INLET NOZZLE ELEVATION FROM GROUND D	END TO END E	HAND HOLE OR MANHOLE ELEVATION FROM SHELL F
0.5 M3	2330	610	200	700	1110	500
1.0 M3	2833	766	300	852	1166	700
3.0 M3	3190	1284	400	1121	1684	800
5.0 M3	3418	1632	400	1234	2032	900



Turbine Flow Straightener :

Generally in pipelines pumps, piping bends, vibrations, control valves will generate swirl. Any swirl present in the fluid which enters into turbine meter can change the effective angle of engagement and hence deviation in the reading will take place and false reading will be take place. so it is required to install flow straightener before turbine meter to minimize liquid rotation, the swirl effect of the fluid.

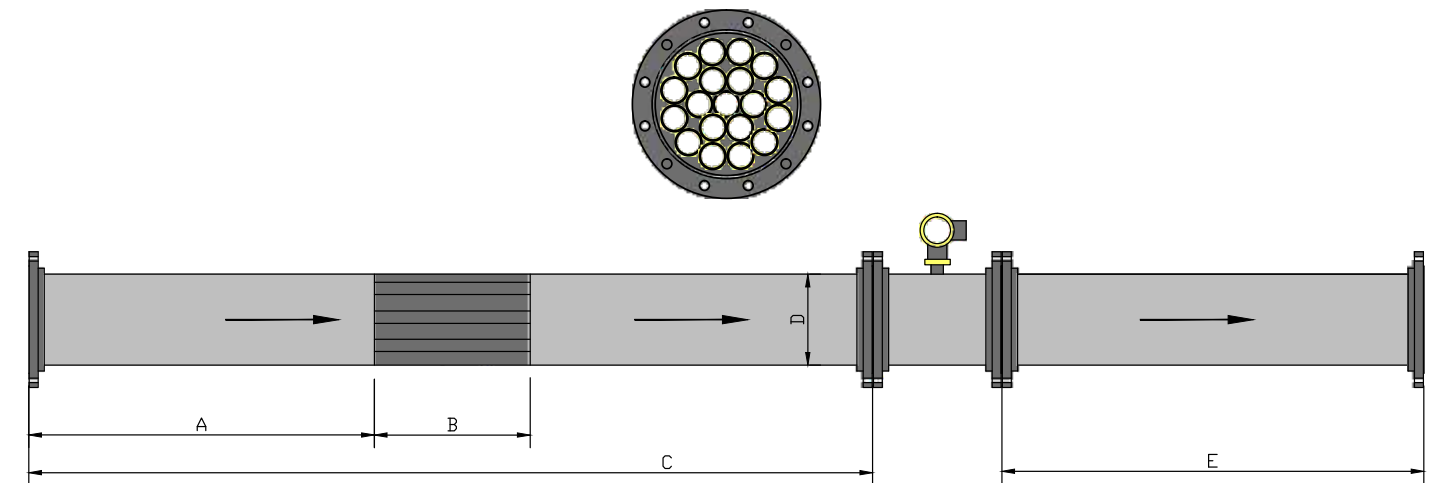
After passing through the turbine meter the fluid enters into the downstream of the flow meter which is 5D flow straightener which controls any swirl existence on the rotor.

It is good practice to keep minimum straight run of pipe 10 times diameter of pipeline at upstream of turbine meter and 5 times diameter of pipeline at downstream of turbine meter.

Construction :

As this 10 D upstream flow straightener is 2 to 3 D upstream plenum then 2 to 3 D tube bundle with 7 or 19 nos stainless steel tubes with again 5D downstream plenum.

5D downstream flow straightener consists of simple piping. With optional port for pressure, temperature measurement.



Turbine Flow Straightener :

Dimension For 150#. For Other Class Please Consult Our Factory

SIZE		A	B	C	D	E
INCHES	MM	UPSTREAM (2 TO 3 D)	TUBE BUNDLE SPOOL (2 TO 3 D)	10 D UPSTREAM	INSIDE DIAMETER OF PIPE	DOWNSTREAM 5D
1.5	40	102	102	410	41	205
2	50	130	130	520	52	260
3	80	195	195	780	78	390
4	100	255	255	1020	102	510
6	150	385	385	1540	154	770

All Dimensions Are In mm. This Dimensions Are For Schedule 40 Pipe Size For Other Schedule This Will Change Accordingly.