



**Sure Flow  
Equipment Inc.**

# BARRED TEES, LAUNCHERS AND RECEIVERS

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



2011

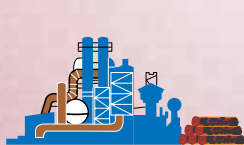


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## Service Applications



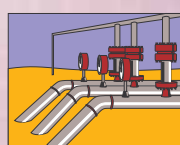
Pulp and Paper



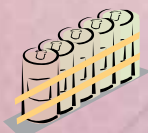
Mining Operations



Cement Manufacturing



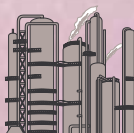
Petrochemical



Food Processing Facilities



Steel Mills



Chemical Plants

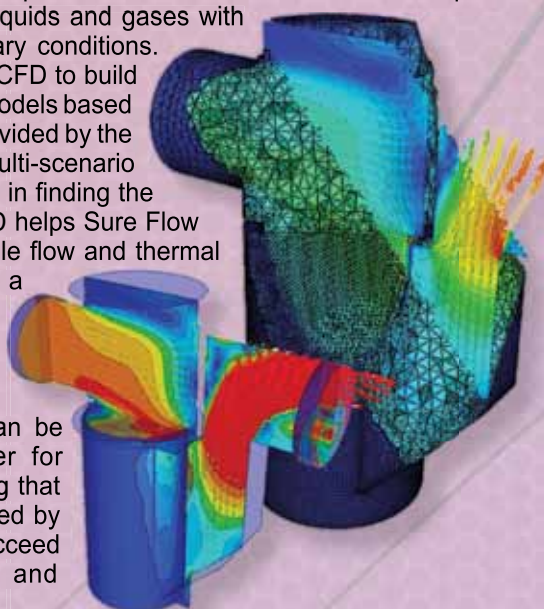


Sewage Treatment Industry

## Computational Fluid Dynamics (CFD)

Computational Fluid Dynamics (CFD) is a sophisticated use of numerical methods and algorithms to solve and analyze problems that involve fluid flows. Computers are used to perform the millions of calculations required to simulate the interaction of liquids and gases with surfaces defined by boundary conditions.

Sure Flow Equipment uses CFD to build and test strainer assembly models based on the service conditions provided by the end user. This allows for multi-scenario design studies that can help in finding the optimal product design. CFD helps Sure Flow Equipment test the applicable flow and thermal simulations when designing a custom engineered strainer. Sure Flow Equipment can build a virtual prototype of a strainer in order to generate a drawing that can be submitted to the end user for review. CFD aids in assuring that all custom products fabricated by Sure Flow Equipment will succeed in performing as desired and surpassing expectations.



## Commitment to Quality

Sure Flow Equipment Inc. features complete custom engineered design and fabrication expertise within a quality focused state-of-the-art manufacturing facility. Commitment to quality, customer satisfaction and continual improvement is integral to our manufacturing processes and ensures custom engineered strainers meet your design specifications and stringent quality requirements. We've made it easy for you to place your order with confidence.

Sure Flow Equipment Inc. provides industry with Custom Engineered Fabricated Strainers to many design codes. Custom products are designed and manufactured to ASME SECTION VIII, DIV 1, Current Edition. ASME "U" Code Stamp and ASME "UM" Code Stamp are available on certain products as specified in this brochure.

The Sure Flow Equipment Inc. list of Certifications includes:

ISO 9001:2008 Certificate of Registration

ASME "U" Code Stamp Certificate of Authorization and  
ASME "UM" Code Stamp Certificate of Authorization  
(ASME Boiler and Pressure Vessel Code; ASME Section VIII, Div 1, Current Edition);

National Board Certified and authorized to apply the "NB" Mark for pressure vessels and/or pressure retaining items manufactured in accordance with ASME "U" Code Stamp and ASME "UM" Code Stamp;

TSSA (Technical Standards & Safety Authority) Certificate of Authorization for the manufacture of pressure vessels in accordance with ASME Boilers and Pressure Vessel Code, Section VIII, Division 1 and CSA Standard B51, Boiler, Pressure Vessel and Pressure Piping Code.

TSSA (Technical Standards & Safety Authority) Certificate of Authorization for the repair and alteration of boilers, pressure vessels, piping, and Category A, B, E & H fittings in accordance with CSA Standard B51, Boiler, Pressure Vessel and Pressure Piping Code.

CE Mark is available

C-TPAT Certified (Customs-Trade Partnership Against Terrorism)

Recognized by PIP (Partners In Protection) for our C-TPAT status

Member of FCI (Fluid Controls Institute) and Vice Chairman of Pipeline Strainer Section



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# BARRED TEES

**BARTEE150 / BARTEE300 / BARTEE600**  
**SA234 - Carbon Steel / 304 - Stainless Steel / 316 - Stainless Steel**

## Buttweld End Connections



Sure Flow Barred Tees are manufactured to specific customer project specifications in a full range of sizes from ASME Class 150 to 2500 and higher. They are fabricated to the highest industry standards and pipeline vessel design codes in Carbon Steel, Stainless Steel or Alloy materials.

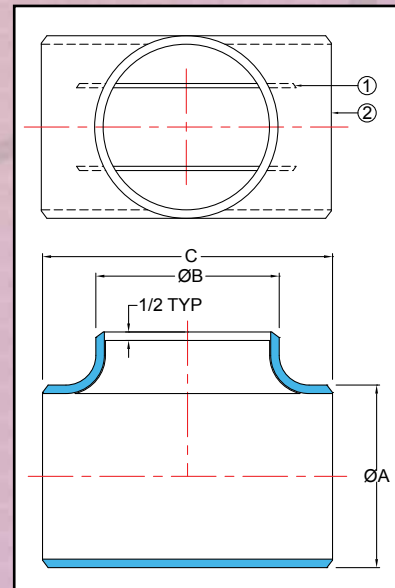
Custom fitted bar sections are welded to the branch of the buttweld Tee. The bars are added to ensure the Pig passes by the branch opening. Bar spacing is designed to prevent damage to the functional elements of the Pig.

Buttweld End Connections are standard. Optional Flanged Connections in raised face or RTJ, as well as extended pup-pieces, are available. Barred Tees are used in a pipeline Launcher/Receiver system and at any branch in the pipeline to ensure safe passage of the Pig.

### Notes:

- Higher ASME pressure ratings available
- Larger sizes available

Manufacturer reserves the right to modify dimensions, materials, or design. Consult factory for certification.



Construction		
Item	1	2
Description	Bar	Buttweld Tee

Dimensions (Inches)														
A Run Size	Prefix	B Branch Size												C
		2	3	4	6	8	10	12	14	16	18	20	24	
2	0200	1/4												5
3	0300	1/4	1/4											6 3/4
4	0400	1/4	1/4	1/4										8 1/4
6	0600	1/4	1/4	1/4	1/4									11 1/4
8	0800	1/4	1/4	1/4	1/4	1/4								14
10	1000	1/4	1/4	1/4	1/4	1/4	1/4							17
12	1200	1/2	1/2	1/2	1/2	1/2	1/2	1/2						20
14	1400	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2					22
16	1600	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2				24
18	1800	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2			27
20	2000	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2		30
24	2400	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	34
		1 Bar					2 Bars				3 Bars			
		Bar Quantity and Thickness												

## Ordering Information

Example: Include full description

Size                      Model  
 (Prefix)                Number  
**0200                BARTEE150/234**

2" Barred Tee, ASME Class 150, Carbon Steel

## Operating Pressures and Temperatures

Type	Size	psi @ Temp Steam	psi @ Temp WOG
BARTEE150234	2" - 24"	150 @ 366 °F	285 @ 100 °F
BARTEE150304/316			275 @ 100 °F
BARTEE300234	2" - 24"	300 @ 422 °F	740 @ 100 °F
BARTEE300304/316			720 @ 100 °F
BARTEE600234	2" - 24"	600 @ 489 °F	1480 @ 100 °F
BARTEE600304/316			1440 @ 100 °F



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# LAUNCHERS AND RECEIVERS

## General Overview

Sure Flow Launchers and Receivers are custom designed to your specific application in a full range of sizes from ASME Class 150 to 2500 and higher. They are fabricated to the highest industry standards and pipeline vessel design codes in Carbon Steel, Stainless Steel or Alloy materials.



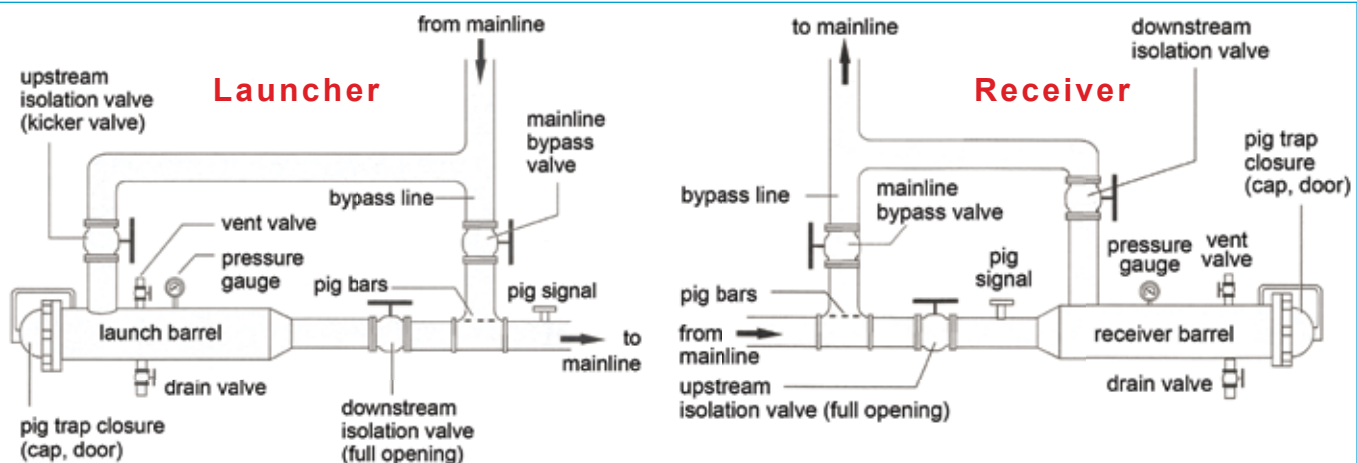
Launchers and Receivers are used in process pipelines to facilitate the activity of pigging the pipeline.

Pipeline Inspection Gauges or Pigs are tools that are inserted into and move through the pipeline, propelled by the flow of the fluid. Pigs perform many tasks including cleaning, inspection, coating the pipeline interior and separating batches of different fluids.

A Launcher is located at the upstream end of the pipeline to launch the Pig into the pipeline. A Receiver is located at the downstream end of the pipeline to remove the Pig from the pipeline.

The design of the Launcher and Receiver will depend on the Pig and pipeline design conditions. Launchers and Receivers can have many options. Sure Flow will custom design your Launcher or Receiver to work with your conditions and requirements.

## Typical Launcher and Receiver Piping Configuration



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# LAUNCHERS AND RECEIVERS

## Standard and Optional Features

Sure Flow offers simple barrel Launchers and Receivers through to complete skid mounted units that include Actuated Valves, Instrumentation, Pig Signalers and Control Systems.



Sure Flow Launchers and Receivers are manufactured to customer specifications with standard features and options including:

### Standard Features

- Carbon Steel Body
- NPT Vent, Drain, Pressure Gauge, Pig Signal Connections
- Quick Open T-Bolt Closure with Hinge
- Designed to ASME Section VIII Div 1
- Designed for Operating Pressure of 285 psi at 100 °F

### Optional Features

- Stainless Steel or Alloy Materials
- Design Codes available: ASME B31.3 or ASME B31.4 or CSA Z662
- ASME "U" Code Stamp and National Board "NB" Mark Available
- Cam Lock Handles or Breakover Wrench Style Bolts
- Cover Davit
- Pressure Gauge / Switch
- Pig Signaler
- Support Legs or Skirt
- Weld Neck Flanged Connections
- Alternate Elastomer Seals to suit various applications
- Lifting Lugs for Installation
- Additional Ancillary Connections
- Special Coatings



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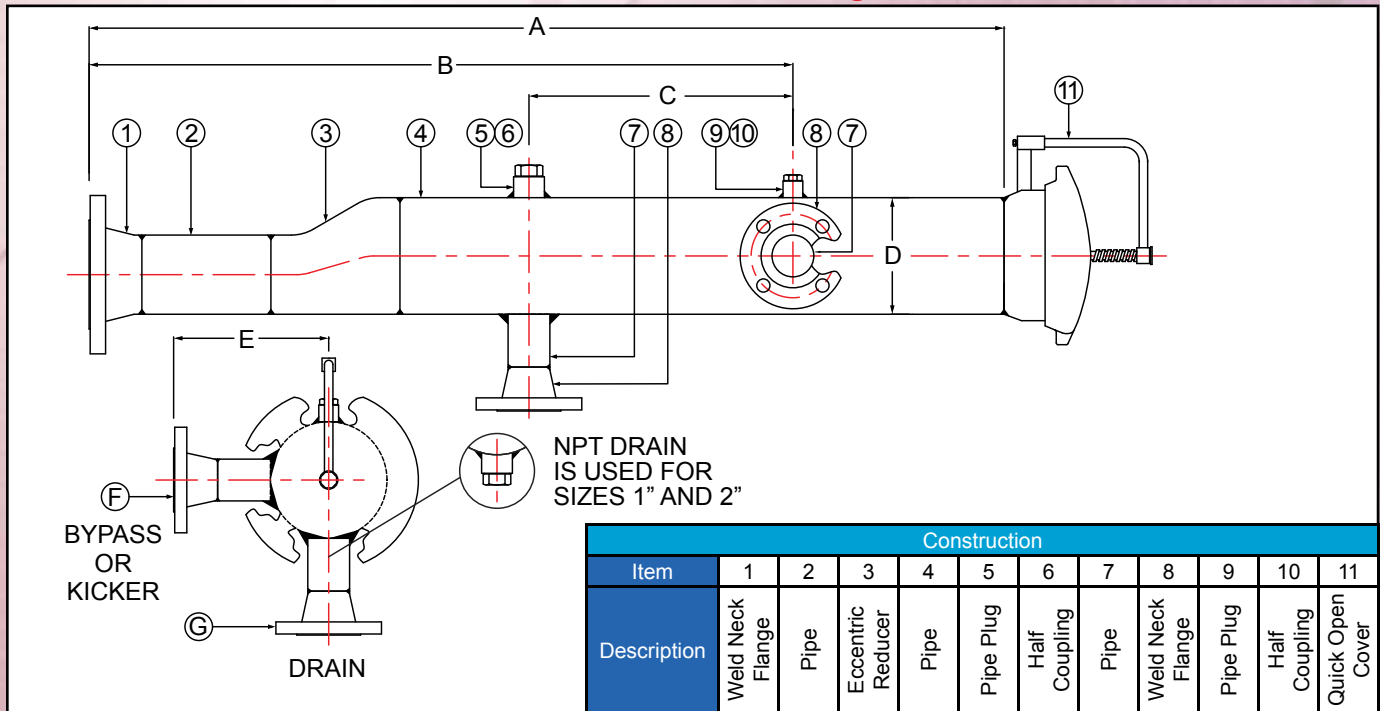
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# DIMENSIONS - LAUNCHERS

LCR150 / LCR300 / LCR600 - Carbon Steel  
LCR150SS / LCR300SS / LCR600SS - Stainless Steel

**ASME Class 150 / 300 / 600 - Flanged Connections**



## Notes:

- Higher ASME pressure ratings available
  - Larger sizes available
- Manufacturer reserves the right to modify dimensions, materials, or design. Consult factory for certification.

Dimensions (Inches)								
Run Size	Prefix	A	B	C	D	E	F	G
4	0400	52	40	15	6 5/8	11	2	1
6	0600	56	42	16	8 5/8	12	3	2
8	0800	58	44	18	10 3/4	13	4	2
10	1000	64	47	18	12 3/4	14	4	2
12	1200	68	49	18	16	16	6	4
14	1400	76	54	18	16	16	6	4
16	1600	90	64	20	18	17	8	4
18	1800	96	66	20	20	20	10	6
20	2000	98	66	22	24	21	10	6
24	2400	104	70	26	26	23	10	6
26	2600	108	72	26	28	24	10	6
28	2800	110	74	28	30	26	12	6
30	3000	114	76	28	36	28	12	8
36	3600	122	82	32	40	32	14	8

## Ordering Information

Example: Include full description

Size                      Model  
(Prefix)                  Number

**3000                  LCR150SS**

30" Launcher, ASME Class 150, Stainless Steel

## Operating Pressures and Temperatures

Type	Size	psi @ Temp Steam	psi @ Temp WOG
LCR150	4" - 36"	150 @ 366 °F	285 @ 100 °F
LCR150SS			275 @ 100 °F
LCR300	4" - 36"	300 @ 422 °F	740 @ 100 °F
LCR300SS			720 @ 100 °F
LCR600	4" - 36"	600 @ 489 °F	1480 @ 100 °F
LCR600SS			1440 @ 100 °F



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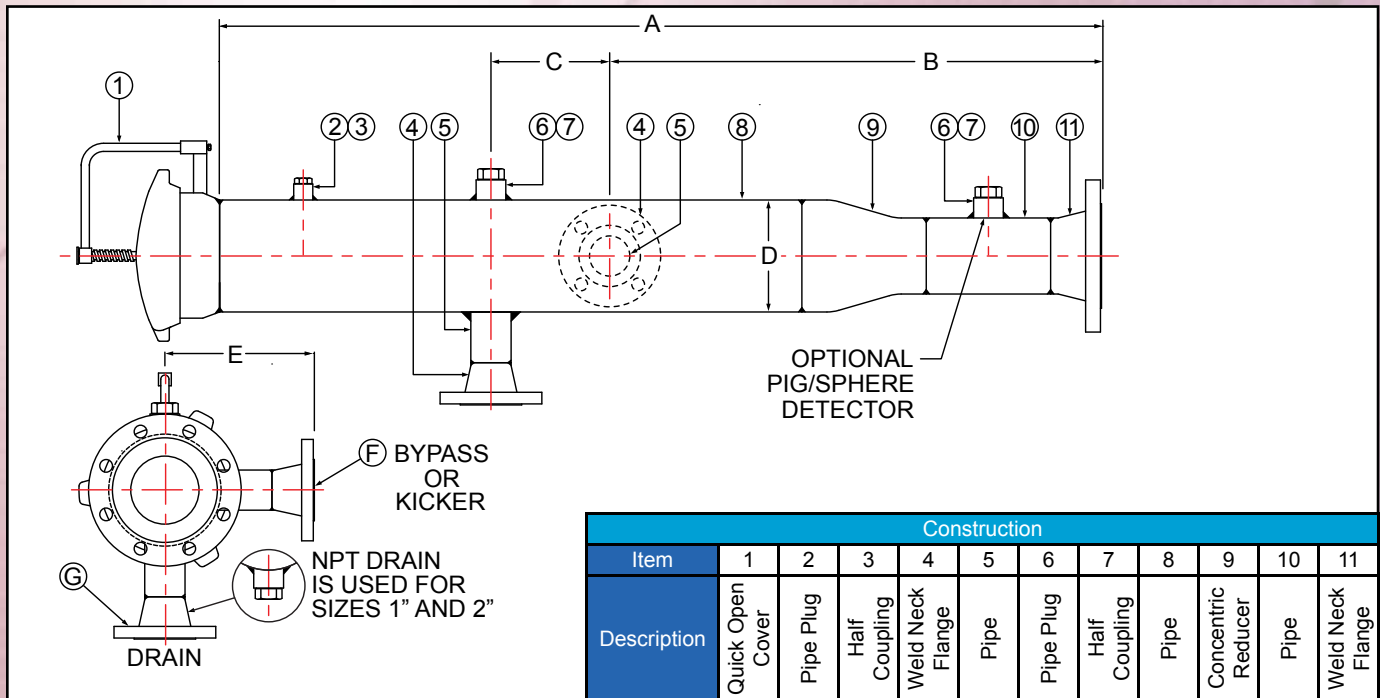




# DIMENSIONS - RECEIVERS

RCR150 / RCR300 / RCR600 - Carbon Steel  
RCR150SS / RCR300SS / RCR600SS - Stainless Steel

**ASME Class 150 / 300 / 600 - Flanged Connections**



## Notes:

- Higher ASME pressure ratings available
  - Larger sizes available
- Manufacturer reserves the right to modify dimensions, materials, or design. Consult factory for certification.

Dimensions (Inches)								
Run Size	Prefix	A	B	C	D	E	F	G
4	0400	62	29	7	6 5/8	11	2	1
6	0600	66	31	8	8 5/8	12	3	2
8	0800	74	34	9	10 3/4	13	4	2
10	1000	82	36	10	12 3/4	14	4	2
12	1200	90	38	11	16	16	6	4
14	1400	112	45	12	16	16	6	4
16	1600	114	50	14	18	17	8	4
18	1800	120	55	16	20	20	10	6
20	2000	124	58	18	24	21	10	6
24	2400	130	60	18	26	23	10	6
26	2600	138	64	18	28	24	10	6
28	2800	148	68	20	30	26	12	6
30	3000	160	74	22	36	28	12	8
36	3600	172	80	24	40	32	14	8

## Ordering Information

Example: Include full description

Size                      Model  
(Prefix)                  Number

**1200                  RCR300SS**

12" Receiver, ASME Class 300, Stainless Steel

## Operating Pressures and Temperatures

Type	Size	psi @ Temp Steam	psi @ Temp WOG
RCR150	4" - 36"	150 @ 366 °F	285 @ 100 °F
RCR150SS			275 @ 100 °F
RCR300	4" - 36"	300 @ 422 °F	740 @ 100 °F
RCR300SS			720 @ 100 °F
RCR600	4" - 36"	600 @ 489 °F	1480 @ 100 °F
RCR600SS			1440 @ 100 °F



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## Sure Flow Equipment Inc. – Limited Warranty

All products are warranted to be free of defects in material and workmanship for a period of one year from the date of shipment, subject to below. **All custom products are not subject to return, credit or refund.**

If the purchaser believes a product to be defective, the purchaser shall:

- Notify the manufacturer **within ten(10) days after receipt of merchandise**, state the alleged defect and request permission to return the product. Merchandise will not be accepted for return without a "Return Code" clearly marked on the outside of the package. Contact the office to obtain a return code. **Merchandise will not be accepted for return or credit later than six (6) months after invoicing.**
- If permission is given, return the product with the transportation prepaid. Collect shipments will not be accepted. Goods must be returned **prepaid**.

If a shipment is received in a damaged or deficient condition, a claim must be filed with the delivering carrier and noted on the freight bill before you accept the merchandise. All other claims must be made in writing and received by Sure Flow Equipment Inc. within ten (10) days after receipt of merchandise.

If the product is accepted for return and found to be defective, the manufacturer will, at its discretion, either repair or replace the product, F.O.B. factory, within 60 days of receipt, or issue credit for the purchase price.

Sure Flow Equipment Inc. shall not be liable for failure to deliver or delays in delivering occasioned by acts of God, war, labor difficulties, inability to obtain materials or any other causes whatsoever beyond our control.

Other than to repair, replace or credit as described above, purchaser agrees that manufacturer shall not be liable for any loss, costs, expenses, or damages of any kind arising out of the product, its use, installation or replacements, labeling, instructions, information or technical data of any kind, description of product use, sample or model, warnings or lack of any of the foregoing.

NO OTHER WARRANTIES, WRITTEN OR ORAL, EXPRESS OR IMPLIED, INCLUDING THE WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE AND MERCHANTABILITY, ARE MADE OR AUTHORIZED. NO AFFIRMATION OF ACT, PROMISE, DESCRIPTION OF PRODUCT OR USE OR SAMPLE OR MODEL SHALL CREATE ANY WARRANTY FROM MANUFACTURER, UNLESS SIGNED BY THE PRESIDENT OF MANUFACTURER.

### CANCELLATIONS:

Cancelled orders will be subject to a charge of at least 35%.

Cancelled custom orders will be subject to a charge of 100% of quoted price.

**SPECIAL DOCUMENTATION:** A charge will apply for non-standard, special documentation requests such as Material Test Reports (MTR's) and Certificates of Conformance (COC's).

**MINIMUM BILLING: \$100.00 NET**

Product shipping weights are approximate and subject to variances depending on packaging methods/requirements.



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**November 2011**