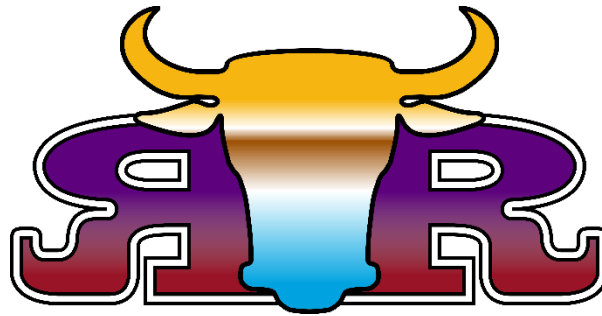


R & R Machine Works Inc.



We really appreciate you making this purchase from us and we hope the equipment meets your expectations. We strive to sell equipment that will make your business as well as ours, prosper. When you have future equipment or service needs please think of us first!

If we can be of further services to you or your company,
please call us at (806) 244-5686.

Sincerely,

Owners and Management

Dalhart R&R Machine Works, Inc.

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Introduction

Thank you for purchasing a R and R Machine Steam Chest. R and R Machine strives to deliver the best steam chest technology combined with rugged, durable construction to provide a productive and reliable means of ensuring your product is cooked to the optimum temperatures. To ensure the steam chest lives up to all expectations, it is important to read and comply with this manual.

This manual provides personnel with the information needed to safely operate and maintain the R and R Machine Steam Chest. It has been designed and written to be used as an instructional tool, as well as a reference tool, for everyday work. It is important that all personnel read and understand the Safety information BEFORE operating the machine. Danger and Caution notices/stickers are positioned in strategic areas on the equipment to point out any potential hazards that may arise from machine setup and/or maintenance procedures.

The parts section includes an ordering guide for assistance when ordering parts. To gain the most from the machine, always use genuine R and R Machine parts. Illustrations may be changed without notice. All dimensions and specifications are approximate, and drawings may not be to scale.



Safety

Remember, YOU are the key to safety. Good safety practices not only protect you, but also the people around you. Make these practices a working part of your safety program. Be certain that everyone operating this equipment is familiar with the recommended operating and maintenance procedures and follows all the safety precautions. Most accidents can be prevented. Do not risk injury or death by ignoring good safety practices.

OPERATING SAFETY

1. Read and understand the Operator's Manual and all safety signs before using.
 2. Before servicing, adjusting, repairing, or maintaining unit, ensure that unit power source is completely shut down, and cannot start-up (locked out).
 3. Do not operate when any inspection doors are damaged or removed. Install and secure the doors before starting.
 4. Review safety items with all personnel routinely.
- **DO NOT** modify the equipment in any way. Unauthorized modification will affect the warranty and may impair the function and / or safety and could affect the life of the equipment.
 - **DO NOT** make any adjustments or repairs on the equipment while the machine is running.
 - **DO NOT** start the system loaded with grain.

SIGNAL WORDS:

Note the use of the signal words DANGER, WARNING, and CAUTION with the safety messages. The appropriate signal word for each message has been selected using the following guidelines:

DANGER - Indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury. This signal word is to be limited to the most extreme situations, typically for machine components that, for functional purposes, cannot be guarded.

WARNING - Indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury and includes hazards that are exposed when guards are removed. It may be also used to alert against unsafe practices.

CAUTION - Indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury. It may be also used to alert against unsafe practices.





**KEEP HANDS CLEAR
WHEN
EQUIPMENT
IS RUNNING**



**NO ACERQUE
LAS MANOS
CUANDO EL EQUIPO
ESTE FUNCIONANDO**



CAUTION

**DO NOT OPERATE
THIS MACHINE
WITHOUT GUARDS
IN PLACE**

PRECAUCION

**NO MANEJE
ESTA MÁQUINA
SIN GUARDIAS
EN POSICIÓN**



**LOCK-OUT
BEFORE WORKING
ON EQUIPMENT**



**CERRAR CON LLAVE
ANTES DE TRABAJAR
EN EL EQUIPO**

SAFETY SIGN REPLACEMENT

1. Keep safety signs clean and legible always.
2. Replace safety signs that are missing or have become illegible.
3. Replaced parts that displayed a safety sign should also display the current sign.
4. Safety signs are available from R and R Machine.



Machine Overview

R and R Machine Works Steam Chests are designed to move grain through a uniform system of steam distribution units. This process ensures that the grain will be cooked to the optimum temperatures that will provide consistent product output.

The key to efficient grain steam cooking is to obtain the correct correlation of the amount of steam distributed within the confines of the steam chest. To accomplish this, R and R Machine incorporates a steam modulator valve and cold spot econ valve to ensure that the grain temperatures are maintained with the minimum amount of steam required to produce this outcome. This is a unique feature of the R and R Machine Steam Chest.

Key Features of the R & R Machine Works Steam Chest:

- High quality all stainless steel construction
- Internal plumbing for efficiency and clean overall design
- Round chest to ensure continuous flow of large amounts of grain
- Unique steam distributors inside the chest for maximum distribution of steam for consistent cook
- Non-corrosive, strong, curved stainless steel flanged sections for ease of installation
- Durable and easily accessible service/inspection doors
- All plumbing is insulated to conserve energy and provide safety
- Improved water repellent, high density rigid insulation



Installation

The installation of your steam chest should be carefully planned and well-engineered.

The following points should be followed to get the most out of your steam chest, both in capacity and quality:

1. Sufficient space must be available around the steam chest for adjustments and repairs
 - i. This space should be maintained for future maintenance.
2. The steam chest should be installed on a level surface capable of withstanding the weight of the steam chest and supported with adequate braces.

Steam Chest Start Up Procedure

R and R Machine Works Steam Chests are designed to move grain through a uniform system of steam distribution units. This process ensures that the grain will be cooked to the optimum temperatures that will provide consistent product output.

The steam provided to the steam chest is regulated via manual and automated valves. The initial startup involves the following:

1. Ensure that the steam chest is full of grain
2. Ensure that your boiler is operating, and you have steam pressure available
3. Open all the steam distribution valves
4. Open the modulator valve to 100% via automation screen
5. Open the cold spot valve via automation screen
6. Allow the grain to cook to the appropriate temperature.

If you have automation, then proceed to the automation screens to complete the system startup for flaking to begin.

Operation / Monitoring

Controlled by the automation process

Shut Down Procedure

Shut Down

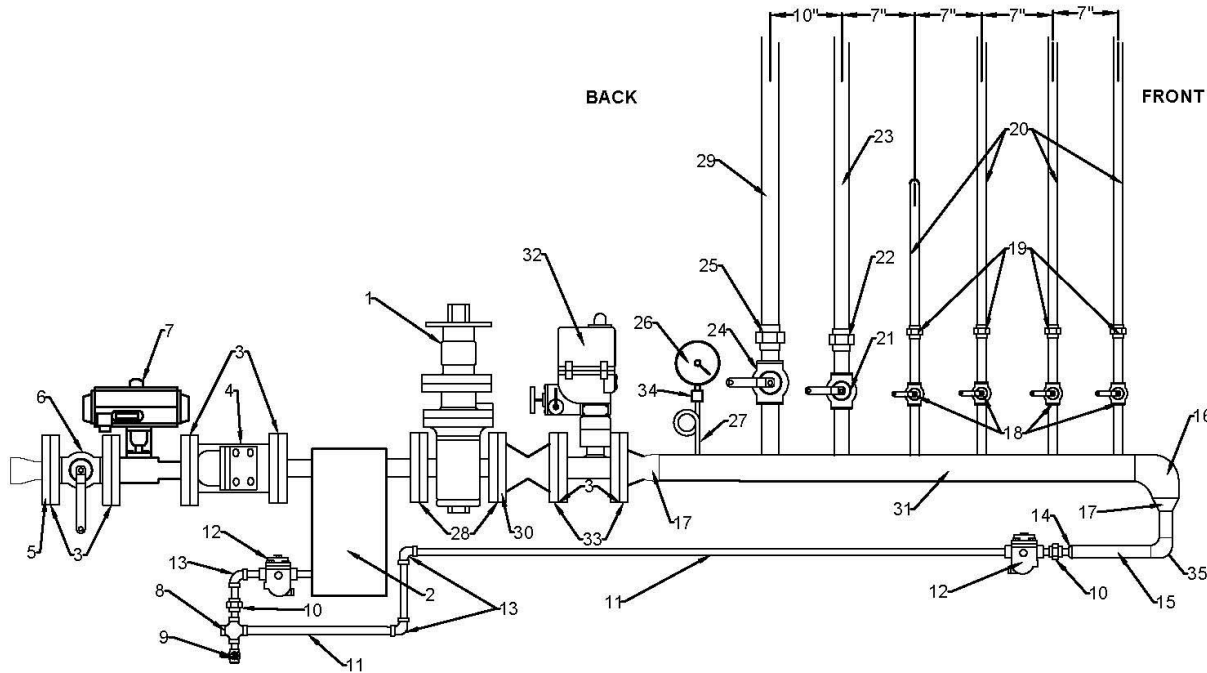
1. Follow boiler shutdown process
2. Close all valves on the steam loop
3. Close the modulator valve
4. Continue to operate the flaker until the processed grain has emptied from the steam chest or the grain has cooled to below 100 degrees Fahrenheit.



Parts Lists and Diagrams

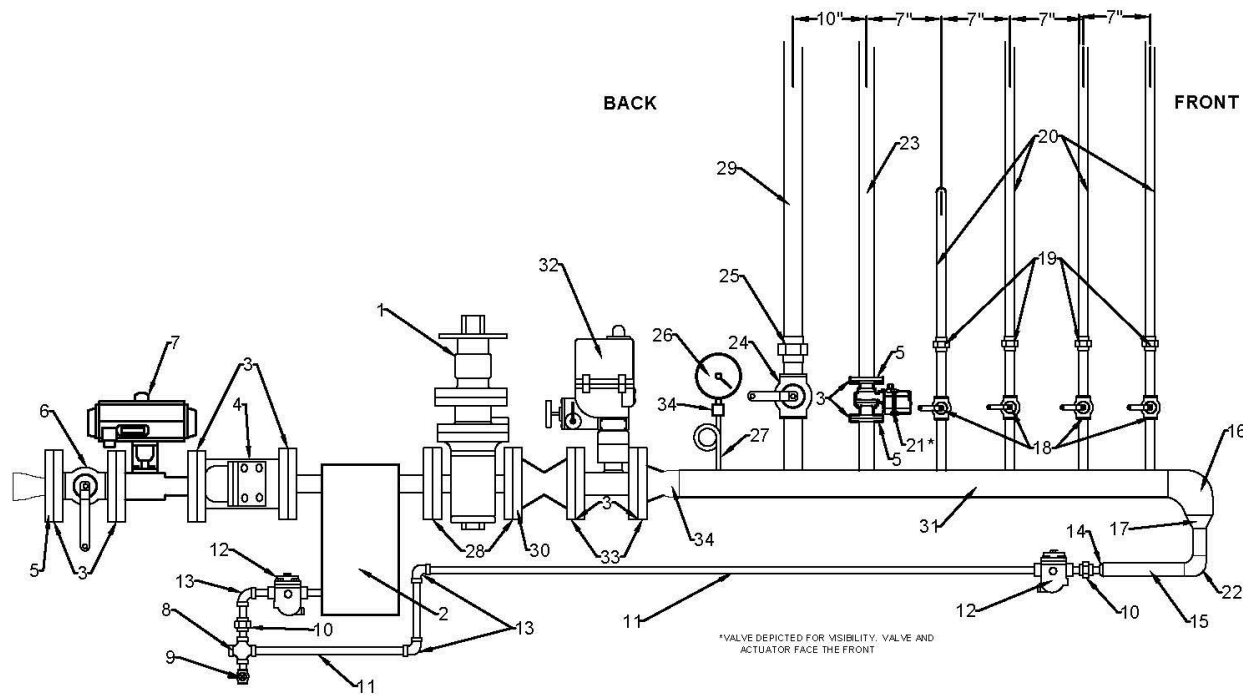
Steam Manifolds

RR1000 2 Inch



R & R STEAM CHEST MANIFOLD 2 INCH RR1000		
NUMBER	PART NUMBER	DESCRIPTION
1	ST2PRVI	2" PRESSURE REDUCING VALVE
2	ST2WS	2" WATER SEPARATOR W/ STEAM TRAP
3	STFLG	2" 150 LB. FLEXITE GASKET
4	ST2Y	2" FLANGED Y-STRAINER
5	FITSWF	2" 150# SLIP ON FLANGE
6	ST2BVTCI	2" 150# S/S VALVE (TCI)
7	ST2FAV	2" ELECTRONIC EMERGENCY SHUT OFF VALVE
8	FITSWC34	3/4 " 3M SW CROSS
9	ST34FBBC	3/4" PORT BALL VALVE
10	FITSWU34	3/4 " 3M SW UNION
11	MBP750S80	3/4" BLACK PIPE
12	ST34ST	3/4" STEAM TRAP
13	FITSW9034	3/4 " 3M SW ELBOW
14	FITWR112X34	1 1/2" x 3/4" WELD ON REDUCER
15	MBP1500	1 1/2" BLACK PIPE
16	FITBW4E	4" BUTT WELD 90 DEG ELBOW
17	FITWR4X112	4" X 1 1/2" REDUCER
18	ST1FBBC	1" BALL VALVE
19	FITSWU1	1" 3M SW UNION
20	MBP1	1" BLACK PIPE
21	ST2FBBC	2" BALL VALVE
22	FITSWU	2" 3M SW UNION
23	MBP2	2" BLACK PIPE
24	ST3FBBC	3" BALL VALVE
25	FITSWU3	3" 3M SW UNION
26	ST4PG	4" 0-160 PSI PRESSURE GAUGE
27	ST14PT	1/2" PIG TAIL PIPE (FOR GAUGE)
28	STFLG3	2" 300LB FLEXITE GASKET
29	MBP3	3" BLACK PIPE
30	FITBWF23	2" 300# BW FLANGE
31	MBP4	4" BLACK PIPE (MANIFOLD)
32	ST2ABV	AUTOMATED BALL VALVE
33	FITBWF2	2" 150# WN FLANGE
34	FITCP0255	1/4 " 3M THR COLLAR
35	FITBW112E	1 1/2" BW 90 DEGREE ELBOW

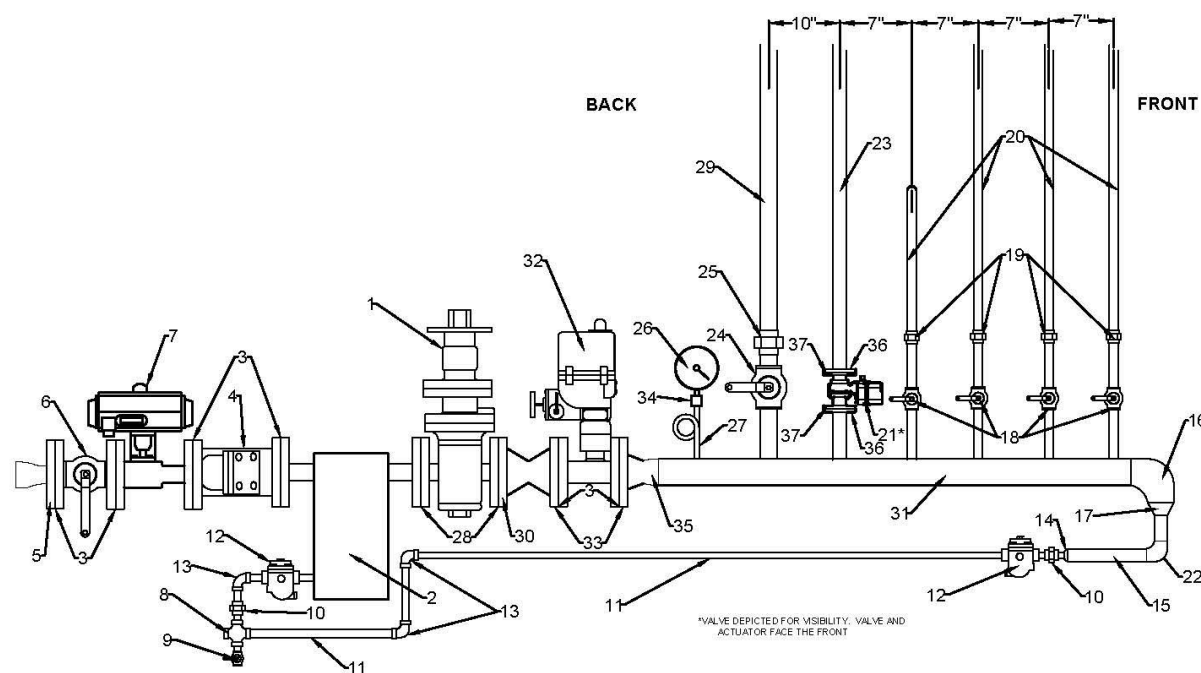
RR2000 2 Inch



R & R STEAM CHEST MANIFOLD 2 INCH RR2000		
NUMBER	PART NUMBER	DESCRIPTION
1	ST2PRVI	2" PRESSURE REDUCING VALVE
2	ST2WS	2" WATER SEPARATOR W/ STEAM TRAP
3	STFLG	2" 150 LB. FLEXITE GASKET
4	ST2Y	2" FLANGED Y-STRAINER
5	FITSWF	2" 150# SLIP ON FLANGE
6	ST2BVTCI	2" 150# S/S VALVE (TCI)
7	ST2FAV	2" ELECTRONIC EMERGENCY SHUT OFF VALVE
8	FITSWC34	3/4 " 3M SW CROSS
9	ST34FBBC	3/4" PORT BALL VALVE
10	FITSWU34	3/4 " 3M SW UNION
11	MBP750S80	3/4" BLACK PIPE
12	ST34ST	3/4" STEAM TRAP
13	FITSW9034	3/4 " 3M SW ELBOW
14	FITWR112X34	1 1/2" x 3/4" WELD ON REDUCER
15	MBP1500	1 1/2" BLACK PIPE
16	FITBW4E	4" BUTT WELD 90 DEG ELBOW
17	FITWR4X112	4" X 1 1/2" REDUCER
18	ST1FBBC	1" BALL VALVE
19	FITSWU1	1" 3M SW UNION
20	MBP1	1" BLACK PIPE
21	ST2FAVE	2" ECON BALL VALVE & ACTUATOR
22	FITBW112E	1 1/2" BW 90 DEGREE ELBOW
23	MBP2	2" BLACK PIPE
24	ST3FBBC	3" BALL VALVE
25	FITSWU3	3" 3M SW UNION
26	ST4PG	4" 0-160 PSI PRESSURE GAUGE
27	ST14PT	1/2" PIG TAIL PIPE (FOR GAUGE)
28	STFLG3	2" 300LB FLEXITE GASKET
29	MBP3	3" BLACK PIPE
30	FITBWF23	2" 300# BW FLANGE
31	MBP4	4" BLACK PIPE (MANIFOLD)
32	ST2ABV	AUTOMATED BALL VALVE
33	FITBWF2	2" 150# WN FLANGE
34	FITCP0255	1/4 " 3M THR COLLAR
35	FITWR4X2	4" X 2" WELD ON REDUCER



RR2000 3 Inch



R & R STEAM CHEST MANIFOLD 3 INCH RR2000		
NUMBER	PART NUMBER	DESCRIPTION
1	ST3PRVI	3" PRESSURE REDUCING VALVE
2	ST3WS	3" WATER SEPARATER W/ STEAM TRAP
3	STFLG3A	3" 150# FLEXITE GASKET
4	ST3Y	3" FLANGED Y-STRAINER
5	FITSWF3	3" 150# SLIP ON FLANGE
6	ST3FBBCF	3" 150# S/S VALVE
7	ST3FAV	3" ELECTRONIC EMERGENCY SHUT OFF VALVE
8	FITSWC34	3/4 " 3M SW CROSS
9	ST34FBBC	3/4" PORT BALL VALVE
10	FITSWU34	3/4 " 3M SW UNION
11	MBP750S80	3/4" BLACK PIPE
12	ST34ST	3/4" STEAM TRAP
13	FITSW9034	3/4 " 3M SW ELBOW
14	FITWR112X34	1 1/2" x 3/4" WELD ON REDUCER
15	MBP1500	1 1/2" BLACK PIPE
16	FITBW4E	4" BUTT WELD 90 DEG ELBOW
17	FITWR4X112	4" X 1 1/2" REDUCER
18	ST1FBBC	1" BALL VALVE
19	FITSWU1	1" 3M SW UNION
20	MBP1	1" BLACK PIPE
21	ST2FAVE	2" ECON BALL VALVE & ACTUATOR
22	FITBW112E	1 1/2" BW 90 DEGREE ELBOW
23	MBP2	2" BLACK PIPE
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26	ST4PG	4" 0-160 PSI PRESSURE GAUGE
27	ST14PT	1/4" PIG TAIL PIPE (FOR GAUGE)
28	STFLG3B	3" 300LB FLEXITE GASKET
29	MBP3	3" BLACK PIPE
30	FITNW33	3" 300# BW FLANGE
31	MBP4	4" BLACK PIPE (MANIFOLD)
32	ST3ABV	3" AUTOMATED BALL VALVE
33	FITNW3	3" 150# WN FLANGE
34	FITCP0255	1/4 " 3M THR COLLAR
35	FITWR4X3	4" X 3" WELD ON REDUCER
36	FITSWF	2" 150# SLIP ON FLANGE
37	STFLG	2" 150 LB. FLEXITE GASKET



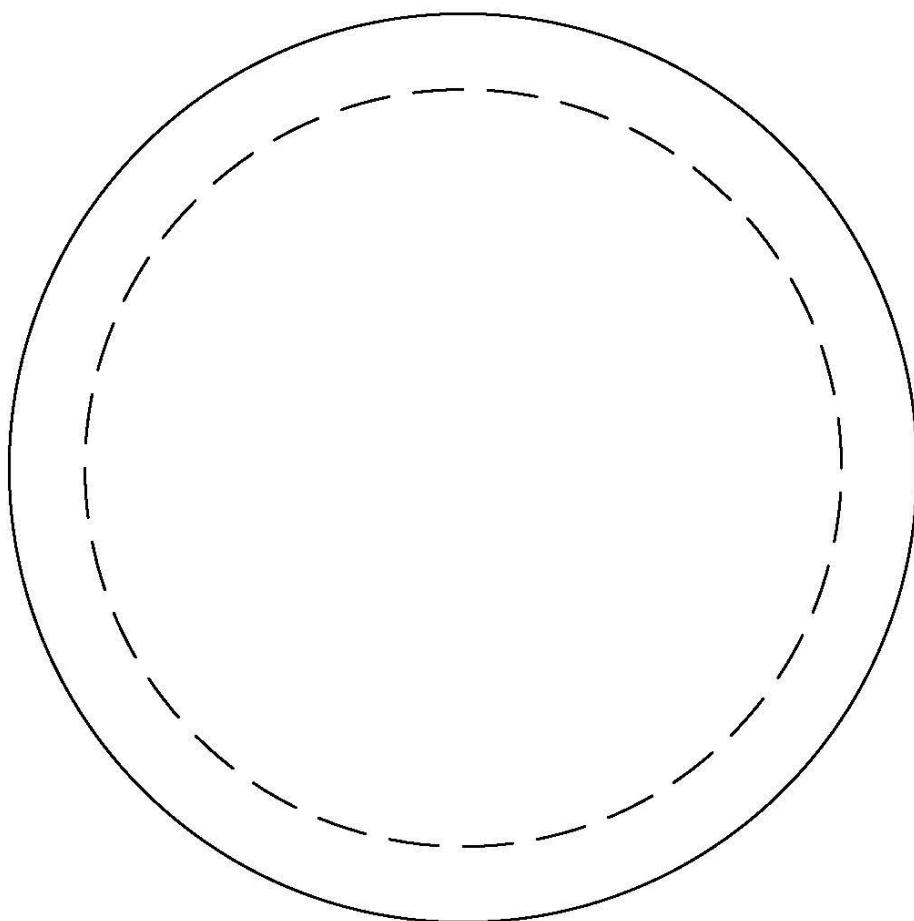
Steam Distribution Units

Steam distribution units are available by contacting

R&R Machine Works at 806-244-5686

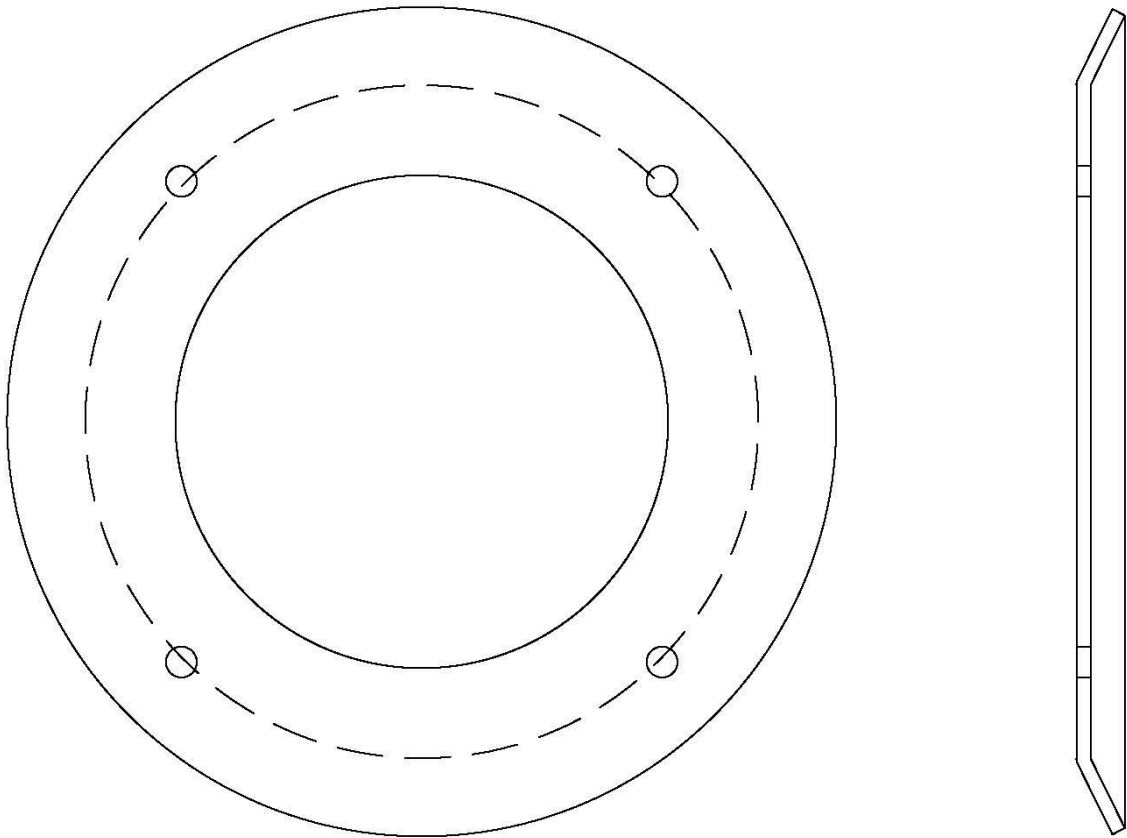
Sight Glass

R & R STEAM CHEST SIGHT GLASS		
NUMBER	PART NUMBER	DESCRIPTION
1	ST6SG	6 INCH ROUND SIGHT GLASS



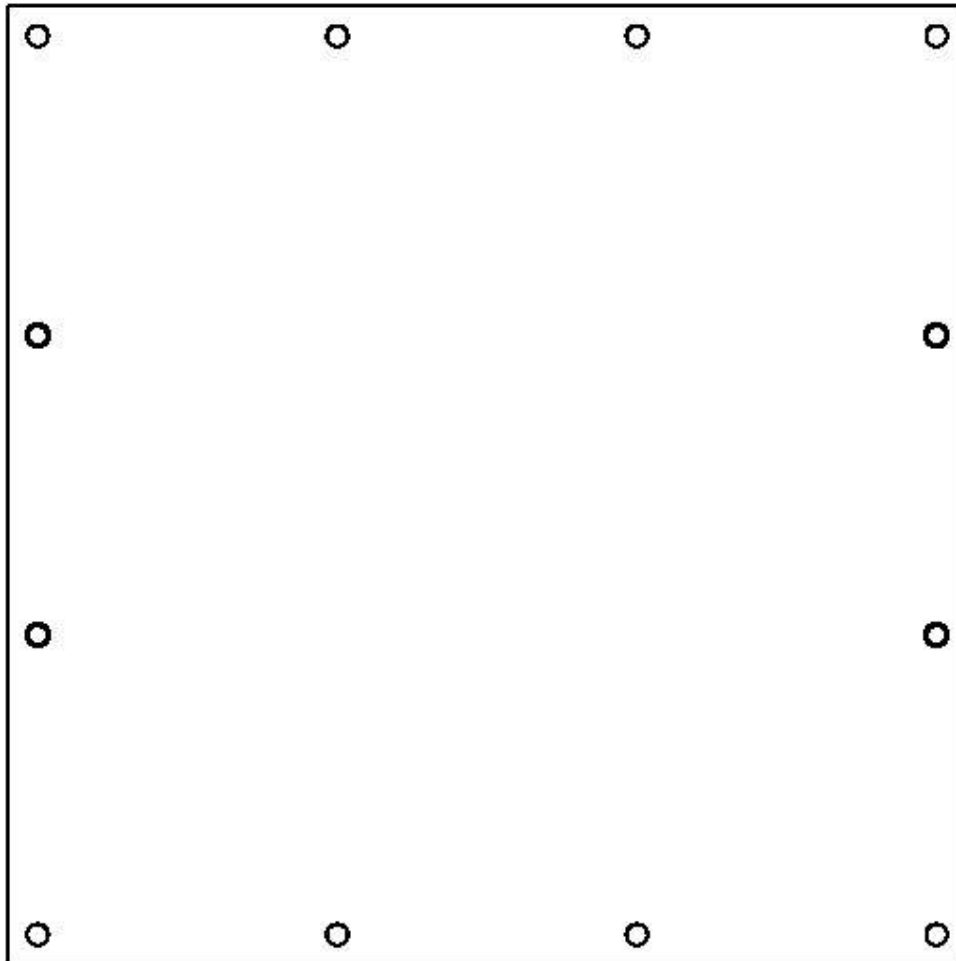
Sight Glass Retainer Plate

R & R STEAM CHEST SIGHT GLASS RETAINER PLATE		
NUMBER	PART NUMBER	DESCRIPTION
1	STSFR	6 INCH ROUND SIGHT GLASS RETAINER PLATE



Inspection Door

R & R STEAM CHEST INSPECTION DOOR		
NUMBER	PART NUMBER	DESCRIPTION
1	STDC17	INSPECTION DOOR



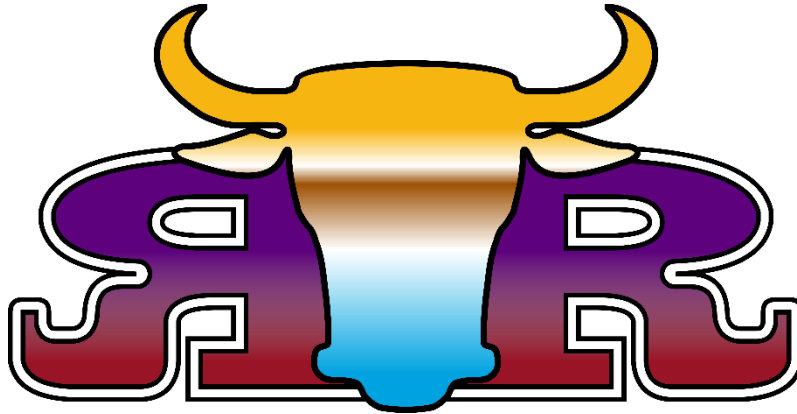
Limited Warranty

The manufacturer warrants this equipment to the original user against material or workmanship for a period of 30 days from the date of purchase on repair parts and labor. The manufacturer's responsibility under this warranty is limited to the repair or replacement of defective part or parts. The manufacturer reserves the right to determine whether the part or parts failed because of material, workmanship, or other causes. Failure caused by accident, alteration, or misuse is not covered by this warranty.

A DALHART R&R MACHINE WORKS, INC. representative must perform all warranty repairs. Any repair to the equipment other than by this authorized facility voids this warranty. The rights under this warranty are limited to the original user and may not be transferred to subsequent owners.

The warranty is in lieu of all other warranties, expressed or implied, including warranties for a specific purpose.





Steam Chest Operator's Manual and Parts Guide

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