

# Rotary Stream

## Operators Manual



Special execution, intended for use in potentially explosive atmosphere (zone 22) in conformity with category 3 of group II, according to the European ATEX Directive 94/9/EC. The equipment has the following marking:

Inside: II 2D Ex h IIIB T85 °C Db 5 °C ≤ Tamb ≤ 35 °C  
Outside: II 3D Ex h IIIB T85 °C Dc 5 °C ≤ Tamb ≤ 35 °C  
Technical File No. 246/16



II 3 D c

RST-M00-0003

1. INTRODUCTION

When you purchased your Kice Rotary Stream Splitter you bought a machine that has proven its reliability based on hundreds of installations and years of dependable service.

We’re proud of our products and the people at Kice Industries who build them. At Kice, we follow the construction standards and manufacturing techniques that have proven superior for over 60 years.

The present design of the Kice Rotary Stream Splitter is the result of input from our development work and many customers.

The owner’s manual is intended as a guide for proper installation, operation and maintenance to keep your Kice equipment operating safely and efficiently on the job. Service and spare parts information is also included for your benefit.

Sincerely,  
  
Drew Kice, President  
Kice Industries, Inc.

WARRANTY

The Company warrants the equipment manufactured by the Company to be free of defects in material and workmanship for a period of one (1) year from the date of shipment. Kice agrees to repair or replace, at its option, any parts found defective in the opinion of the Company. Kice is not liable for any costs in connection with the removal; shipment or reinstallation of said parts. This warranty does not apply to abrasion, corrosion, erosion abuse or misuse of the product. Assistance by Kice in system layout or selecting equipment does not imply Kice’s responsibility.

Buyer agrees to look to the warranty, if any, of the manufacturer or supplier of equipment manufactured by others and supplied by Kice for any alleged defects in such equipment and for any damages of injuries caused thereby or as a result thereof. Where work is made to measurements or specifications furnished by the Buyer, Kice does not assume any responsibility for the accuracy of Buyer’s specifications. Kice will not assume responsibility for alteration or repairs unless the same are made with the written consent and approval of Kice.

**PURCHASER SHALL BE RESPONSIBLE FOR COMPLIANCE WITH ELECTRICAL MANUFACTURER RECOMMENDATIONS, UNDERWRITER’S CODE AND ALL SAFETY PRECAUTIONS.**

Kice extends no other warranty for any of its products other than the above express warranty and there are no other warranties, express or implied, including warranties of merchantability, fitness for a particular purpose or otherwise which extend beyond the above limited expressed warranty. Kice and its dealers shall not in any event be liable for consequential or incidental damages and the terms and conditions stated herein provide the Buyer’s sole and exclusive remedy. Any actions for breach of this agreement or warranty must be commenced within one year after the cause of action has occurred.

TABLE OF CONTENTS

1. INTRODUCTION.....	2
2. GENERAL INFORMATION.....	4
3. SAFETY PRECAUTIONS.....	6
4. RECEIVING, HANDLING AND INSTALLATION.....	8
5. OPERATION AND START-UP PROCEDURE.....	11
6. MAINTENANCE AND SERVICE.....	12
7. TORQUE VALUES FOR MAINTENANCE AND INSTALLATION.....	13
8. TROUBLESHOOTING.....	14
9. SPECIAL ATEX INFORMATION.....	16
10. ILLUSTRATED PARTS LIST.....	18
11. ADDITIONAL EQUIPMENT FROM KICE INDUSTRIES, INC. ....	19

IMPORTANT

Write down the MODEL and SERIAL NUMBER of the Kice Rotary Stream, along with the same information for the auxiliary equipment. (Airlock valves, fans, speed reducers, motors, and sheaves size, type and any special modifications to standard).

For additional information, application assistance or special service, you should contact the factory. We’ll need to know the MODEL and SERIAL NUMBER of your Kice Rotary Stream Splitter. For ready reference, please record this information and the date of delivery or installation and the date of delivery or installations on the lines below. See the General information section for the location of model and serial number.

MODEL \_\_\_\_\_

SERIAL NUMBER \_\_\_\_\_

Date of delivery or installation \_\_\_\_ / \_\_\_\_ / \_\_\_\_

2. GENERAL INFORMATION

TO THE NEW OWNER

The purpose of this manual is to assist owners and operator in maintaining and operating a Kice Rotary Stream Splitter. Please read it carefully; information and instructions furnished can help you achieve years of dependable performance. Separate manuals may be included for auxiliary equipment that make up a system, such as discharge airlock valves, cyclones and fans, these manuals contain additional information which is not in this manual. You are urged to read all manuals before attempting any operation or repair of the equipment in the system. If any manuals are not included in your owner’s packet contact our customer service department.

USING THIS MANUAL

Equipment receiving information, installation, general operation, and adjustment and maintenance guidelines are outlines for owners and operator of Kice Rotary Stream Splitters. Operating conditions vary considerable and cannot be addressed individually. Through experience however, operators should find no difficulty in developing good operating, safety and monitoring skills.

The term “disconnect and lock-out” as used in this manual means that power to the equipment has been disconnected through the use of a lockable, manual, power cut-off, or power lockout switch.

Directional references are used in this manual, for example RIGHT or LEFT or CLOCKWISE or COUNTERCLOCKWISE, refer to the directions when facing the drive end of the machine. The metal identification plate, containing the model, serial number and date is attached to the outside of the housing under the door.

Photographs and illustrations were current at the time of printing, but subsequent production changes may cause your Kice Rotary Stream Splitter to vary slightly in detail. Kice Industries, Inc. reserves the right to redesign and change the equipment as deemed necessary, without notification. If a change has been made to your Kice Rotary Stream Splitter which is not reflected in this owner’s manual, or the illustrated parts list, write or call Kice industries, Inc., for the current information and parts.

GENERAL INFORMATION CONTINUED

MODEL AND SERIAL NUMBER

The model of the Rotary Stream Splitter, serial number and date of manufacture can be found stamped on the metal identification plate, located on the outside of the housing under the access door.



Identification Plate Examples

KICE ROTARY STREAM PARTS AND SERVICE

Use original Kice Rotary Stream Splitter replacement parts only. These parts are available from Kice Industries, Inc. To obtain prompt, efficient service, always provide the following information when ordering parts:

- 1. Correct part description and number, as given in the Illustrated Parts List section of this manual.
- 2. Correct model number.
- 3. Correct serial number

**IMPORTANT:** Any unauthorized modification, alteration or use of non-approved attachments or drive units voids the warranty and releases Kice Industries, Inc. from any liability arising from subsequent use of this equipment. Each type of Rotary Stream Splitter is designed to be used in a specific type of system. Using the Kice Rotary Stream Splitter for a purpose other than what it was designed for could result in personal injury as well as product or property damage.

FOR MOTOR AND DRIVE PARTS AND SERVICE

Purchased items such as speed reducers, motors, and drives are covered by the manufacturer’s warranty. Problems with these components should be referred to your local supplier or service representative.

### 3. SAFETY PRECAUTIONS



This safety alert symbol is used on equipment, safety decals and in manuals to call your attention to an important safety message warning you of possible danger to your personal safety. When you see this symbol, be alert; your personal safety or the safety of other persons involved. Follow the instructions in the safety message.

#### HAZARD LEVELS

The following definitions for identifying hazard levels are:



**DANGER (RED)** – Danger is used to indicate the presence of a hazard that **WILL** cause **SEVERE** personal injury, death, or substantial property damage if the warning is ignored.



**WARNING (ORANGE)** – Warning is used to indicate the presence of a hazard that **CAN** cause **SEVERE** personal injury, death, or substantial property damage if the warning is ignored.



**CAUTION (YELLOW)** – Caution is used to indicate the presence of a hazard that **WILL** or **CAN** cause **MINOR** personal injury or property damage if the warning is ignored.



**WARNING:** All owners and operators should read this manual, or be instructed in safe operating and maintenance procedures, before attempting to uncrate, install, operate, adjust, or service this equipment.

#### SAFETY DECALS

The safety decals on the Rotary Stream should not be removed, covered over, painted, or otherwise become illegible. If this occurs, the decals should be replaced immediately. Contact our customer service department for replacements.

### SAFETY PRECAUTIONS CONTINUED

#### ADDITIONAL SAFETY PRECAUTIONS

1. Do not attempt to install, connect power to, operate or service your new Rotary Stream Splitter without proper instruction and until you have been thoroughly trained in its use by your employer.
2. Do not attempt to open, work on, clean, service or remove any protective cover, guard, grate or maintenance panel on the Rotary Stream Splitter until the POWER has been turned off and LOCKED OUT.
3. Do not manually override or electrically by-pass any protective device.
4. Do not connect power to or operate the Rotary Stream Splitter unless all moving parts are covered and all covers, guards, grates, and maintenance panels are in place and securely fastened.
5. Do not abuse, overload, mistreat or misuse the Rotary Stream Splitter or attempt to operate the equipment if it is need of service, lubrication, maintenance or repair.
6. Never place any part of your body in or near rotating members or moving parts of the Rotary Stream Splitter.
7. The Rotary Stream Splitter may have factory supplied drives, rotating members and moving parts which must be completely enclosed before connecting power and before operation.
8. Free outlet of the product must be guaranteed at all times. Otherwise, blockage and severe damage may result, or a dangerous situation may occur.
9. The Rotary Stream Splitter is equipped with a maintenance panel or access door incorporating any Protective Interlocking Limit Switch (PLS), the PLS must be interlocked with all electrical controls so that all motors or powered devices on a unit will not be energized if any protective cover, guard, grate or maintenance panel is open or removed. Never attempt to manually override or electrically bypass a safety device. Interlock function of a PLS must be tested and logged daily by supervisory personnel.
10. Many Rotary Stream Splitters are installed and wired to start automatically or from remote control locations. Keep clear of all moving parts on industrial equipment at all times.
11. The Rotary Stream Splitter is equipped with a keyed lock on the inspection door. Only trained personnel should open this unit to inspect and adjust the operation while the equipment is operating. The equipment should be checked on a daily basis, and must be tested and logged daily by supervisory personnel.
12. It is the owner and employer's responsibility to adequately train the employee-operator in the proper and safe use of the equipment. Written safety programs and formal instructions are essential. All new employees must be made aware of company policies and operating rules, especially the established safety and health procedures. Refresher training of experience employees in the potential hazards of the job is important. Up to date training records must be maintained at the job site.
13. Special attention must be devoted to outside contractors engaged to enter and perform work on equipment or in the work place. Special care must be exercised to insure all such personnel are fully informed of the potential hazards and follow plant rules –with special emphasis on explosion proof electrical tools and cutting or welding in unsafe environments.
14. Keep the work place cleaned up and free of dirt and dust at all times. Do not attempt to work on slippery or unsafe ladders and work platforms when maintenance or repair work is being performed on the equipment.
15. The operator must ensure that adequate lighting conditions are provided at the location of equipment operation.
16. Do not climb on ladders or work on platforms unless maximum load rating is posted. Do not exceed maximum load ratings when installing or servicing the equipment.
17. Never allow any kind of metal or other foreign objects to enter a Rotary Stream Splitter while in operation. Examined raw materials should be used through the machine to ensure proper and consistent operation.
18. All Rotary Stream Splitter inlet and discharge openings must be completely connected to the piping system to prevent human access when the machine is running and remain closed until the POWER IS TURNED OFF AND LOCKED OUT. Keep away from the moving parts of the Rotary Stream Splitter during operation.
19. Operate safely at all times. Use personal protective equipment when and where appropriate, such as hard hats, helmets, gloves, ear plugs, dust masks, and eye protection devices. Keep personal protective equipment in good repair and convenient to the operator.
20. Drive components must be inspected and adjusted after transportation and periodically as required by operating conditions. Check bolts holding the mounting bracket on the Rotary Stream Splitter, sprocket alignment, set screws and keys as appropriate to job conditions.
21. High voltage and rotating parts can cause serious or fatal injury. Only qualified, trained, and experienced personnel must perform installation, operation and maintenance of electrical machinery. Make sure that the motor and the frame of each Rotary Stream Splitter is effectively grounded in accordance with OSHA safety and health standards, the National Electric Code, local codes and EN ISO 60204-1 as required for the classified area.
22. Never stand under any kind of hoist or lifting mechanism, whether or not it is loaded or in operation. Never stand under or near a Rotary Stream Splitter or component when it is being lifted.
23. Qualified personnel must carefully inspect all lifting devices before each use. Never use lifting devices for equipment transport. Never use a lifting device that is damaged, deteriorated or in any way in need of repair.
24. All protective covers, guards, grates, maintenance panels, switches and warning decals must be kept in place and in good repair. Any equipment with damaged, malfunctioning, defective, or missing protective devices must be taken out of service until the protective device can be repaired or replaced.
25. Any Rotary Stream Splitter which is used in the processing of explosive materials in hazardous environments requires an evaluation on the part of the user and operator of proper and adequate equipment, monitoring equipment, dust control, explosion relief venting, and electrical equipment enclosures. Do not use your equipment in hazardous environments unless it has been properly equipped for the hazard.
26. It is ultimately the operator's responsibility to implement the above listed precautions and ensure proper use of the equipment, maintenance and lubrication. Keep these instructions and list of warnings with you machine at all times.
27. It cannot be assumed that every acceptable safety procedure is contained herein or that abnormal or unusual circumstances may not warrant or require future or additional procedures.

**WORK SAFELY AT ALL TIMES**

## 4. RECEIVING, HANDLING AND INSTALLATION

### RECEIVING AND INSPECTION

Kice Industries Inc. has prepared your new Stream Splitter for shipment in accordance with the Uniform Freight Classification, we have thoroughly inspected this unit at the factory and, barring damage in transit should be in perfect condition upon arrival.

The Kice Rotary Stream Splitter and accessories should be inspected on receipt for any shipping damage. Check all accessories for free operation of all moving parts.

When a carrier signs the Kice Industries Inc., bill of lading the carrier accepts the responsibility for any subsequent shortages or damage evident or concealed, and the purchaser must make any claim against the carrier. Evident shortage or damage should be noted on the carrier's delivery document before signature of acceptance. Inspection by the carrier of damage evident or concealed must be requested. After inspection, issue a purchase order for necessary parts or arrange for return or the equipment to Kice Industries Inc. factory for repair.

### HANDLING AND STORAGE

Kice Rotary Stream Splitters are shipped in many different configurations. All units are completely assembled and skidded ready for assembly. These units must be handled and moved using good rigging techniques, being careful to avoid concentrated stresses that will distort any of the parts. This equipment is designed to be installed with a minimum of assembly on the part of the user. All motors drives and guards are assembled. Speed reducers may be shipped less lubrication; this should be checked before running.

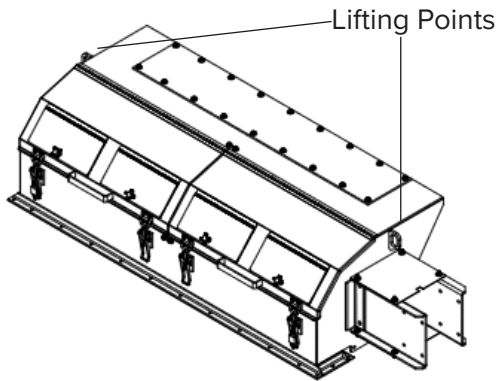
If the Kice Rotary Stream Splitter is not to be installed promptly, store it in a clean, dry location to prevent rust and corrosion of steel components. If outdoor storage is necessary, protection should be provided. Cover the components to prevent the accumulation of dirt and moisture in the housing. Cover motors with waterproof material. Refer to the motor maintenance information for further storage instructions.

**Caution:** Use proper equipment when lifting or moving the Stream Splitters. Make sure all persons and obstructions are clear from path and installation area. See below for details.

### RECEIVING, HANDLING AND INSTALLATION CONTINUED

### INSTALLATION

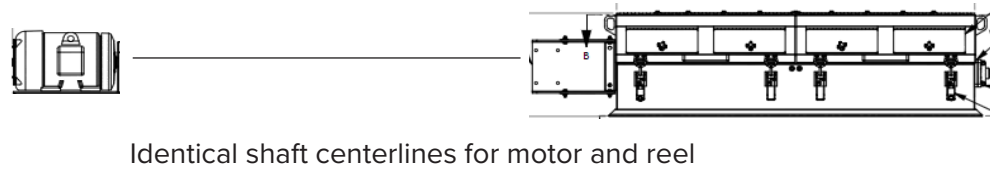
1. Installation of the Rotary Stream Splitter (which may include the motor), is completed by the operator. When installing the equipment, please make sure that the moving parts in the inside of the equipment are not accessible. This also fulfils EN ISO 13857-1 where required.
2. Move the Kice Rotary Stream Splitter to the installation area using proper equipment, tool truck or fork lift with the proper lifting capacity. The Rotary Stream Splitter has two attachment points (lifting lug brackets) where equipment that is necessary for lifting the device, such as hoists, ropes, shackles or clevises can be attached. Both attachment points need to be used during lifting. Using lifting points other than those specified, and/or using equipment with insufficient capacity may compromise human safety as well as the structural integrity of the machine itself. See figure.



3. Check all mounting surfaces of the floor, equipment mounting pads, and the Kice Splitter inlet flange. All should be free of any foreign materials. The floor or mounting surface should be level, using shims to ensure proper installation of the equipment. The Rotary Stream Splitter must be separately grounded and installed on steel construction intended for this purpose to mitigate the risk of an electrostatic charge.
4. For units with no outlet transitions: Place two beads of caulking on the inlet and discharge flanges, on each side of the bolt holes and around each hole. For units with outlet transitions: Place two beads of caulking on the inlet on each side of the bolt holes and around each hole. Use compression couplings on the discharge tube collars.
5. Tighten all mounting fasteners securely. Refer to the table in this manual for correct torque values. To insure proper operation, the Kice rotary Stream Splitter must be adequately supported and properly installed. All ductwork or gravity spouting should be independently supported and placed away from access routes and steps. When installing outside, care must be taken to protect the equipment from driving rain.
6. All duct work and required machinery must be assembled to the Rotary Stream Splitter, fully enclosing it for proper use and quality operation. The unit should only be turned on once it is properly connected and fully encapsulated. This will also prevent personnel from reaching into the machine during operation.



7. When assembling the motor, coupling, and/or drives, exact alignment of the shafts must be ensured to eliminate failure modes and safety risks. See figure.

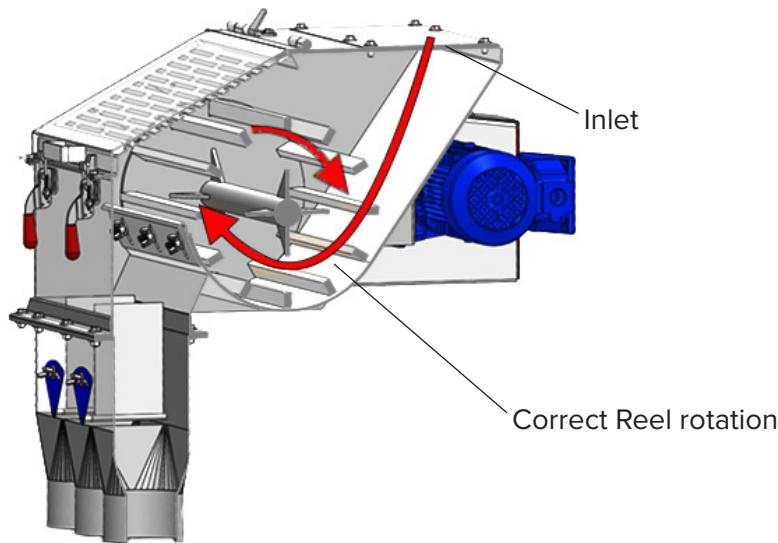


8. The motor controls and starter can be mounted in any convenient location. Distance or location of the controller does not affect its performance.



**WARNING:** High voltage and rotating parts can cause serious or fatal injury. Only qualified personnel must perform installation, operation and maintenance of electrical machinery. Make sure that any motor and the frame of each Kice Rotary Stream Splitter are effectively grounded in accordance with OSHA standards, the National Electric Code and local Codes.

9. Electrical conduit, junction tees, safety switches, motor starters and sometimes motors, are not furnished by Kice Industries, Inc. A local electrician familiar with industrial equipment and local codes should install the electrical items. Wiring from the controls to the motor and switches should be sized for the amperage rating on the electrical device. All electrical components must be in accordance with current guidelines and codes.
10. Some systems will have additional equipment to wire and check. All items must be checked to insure proper direction of rotation, which is marked on the housing.



11. Test-run the Kice Rotary Stream Splitter. If any unusual noises occur, disconnect and lock-out the power. Open the equipment, manually rotate the rotor and inspect for touching or rubbing. The product outlet must remain free and clean at all times; otherwise dangerous operating conditions may occur, causing damage to equipment and/or personnel.
12. Reassemble items removed during inspection and remove lock-out for operation.

## 5. OPERATION AND START-UP PROCEDURE

Kice Rotary Stream Splitters are all similar in the construction and motor drive components. This class of equipment is driven by slow speed gearmotors with chain or shaft drives and guards. We can make many modifications to the standard design, such as material of construction and drive components, but the overall operation and startup procedures remain the same.

Kice Rotary Stream Splitters have an interior rotating “squirrel cage” reel that mechanically spreads the product and pushes it over an adjustable weir as the product exits the machine. The reel rotates in a counterclockwise direction (when facing the drive end of the machine) in such a way that the rods surrounding the circumference of the reel are able to push the product over the weir. The weir can then be adjusted in order to fine tune the uniform spread of the product.

The discharge of the Rotary Stream Splitter is designed to produce a uniform spread of product across the entire width of the machine. The optional discharge transition attachment has a set of transitions that allow the product to be divided into the same number of streams as there are transitions. Between each discharge transition is an adjustable blade that is used to fine tune the split of product between the transitions.

Standard material of construction for all of the above equipment is carbon steel. Optional materials include aluminum and stainless steel, with any combination of carbon steel, aluminum or stainless steel for the internal parts. Reels made of stainless steel are also available, and aluminum rotors are not recommended.

It is the responsibility of owner/employer to provide the necessary training for operating personnel in the proper and safe use of equipment. Written safety programs and formal instruction are essential. All new employees must be made aware of company policies and operating rules, especially the established safety and health procedures. Refresher training of experienced employees in the potential hazards of the job is important. Up-to-date training records must be maintained at the job site.

6. MAINTENANCE AND SERVICE

Bearings, Seals & Shaft size used on the Rotary Stream Splitters are:

Model	Shaft Size	Bearing Description	Seal Description
RST 12 / RST 18	1-3/4"	Dodge F4B-SC-112 4 Bolt Flange Ball Bearing	National Seal # 473237

1. Inspect the speed reducer and motor: Inspect the Splitter motor in the following manner:

a. Read all materials supplied with the equipment concerning the motor.  
b. Be sure that the motor is securely mounted to the speed reducer.
2. Inspect the speed reducer

a. Read all materials supplied with the equipment concerning the speed reducer.  
b. Identify speed reducer type, grease lubrication or oil lubricated.  
c. If the unit is oil lubricated it is **normally shipped dry**. Add the appropriate oil as specified by the manufacturer.  
d. If the unit is Grease lubricated do nothing. These are sealed units and ready for operation.
3. Inspect the drive

a. Look at the drive, one side is the tight side the other side is the loose. Make sure the loose side does not have more than ¼” drop below a straight line from the drive sprocket teeth.  
b. Inspect the sprockets for excessive wear. If either sprocket is worn, replace **BOTH** sprockets **AND** the chain.
4. The maintenance panel exposing the rotor or “squirrel cage” of the machine can only be removed after that motor has been separated from the power supply (by means of the repair switch described in the installation section).
5. When re-assembling the motor, coupling, and/or drives, exact alignment of the shafts must be ensured to eliminate failure modes and safety risks.
6. During any routine maintenance, all set screws and bolts should be checked for tightness. Refer to the table in this manual for correct torque values.

7. TORQUE VALUES FOR MAINTENANCE AND INSTALLATION

Recommended U.S. BOLT TORQUE Coarse thread only							
		SAE Grade 5	SAE Grade 5	SAE Grade 8	SAE Grade 8	Socket head cap screw	Socket head cap screw
Bolt Dia.	Thread Size	lb – ft	N – m	lb – ft	N – m	lb – ft	N – m
1/4	20	8.4	11	12	16	11	15
5/16	18	17	24	25	33	23	31
3/8	16	31	42	44	59	41	55
7/16	14	49	67	70	95	65	89
1/2	13	74	100	110	140	100	140
9/16	12	100	140	150	210	140	200
5/8	11	140	190	210	290	200	270
3/4	10	240	330	380	510	350	480
7/8	9	390	520	610	820	570	770
1	8	570	780	910	1100	850	1200
1-1/8	7	790	1100	1300	1700		
1-1/4	7	1100	1500	1800	2500		
1-3/8	6	1500	2000	2400	3200		
1-1/2	6	1900	2600	3200	4300		
1-5/8	5.5	2400	3300	4300	5900		
1-3/4	5	3000	4100	5000	6800		
2	4.5	4500	6100	7500	10000		

Values above are approximations; consult with the manufacturer for torque data.

Significant variation may exist within the same grade and size between manufacturers.

8. TROUBLESHOOTING

Kice Industries Inc. is careful to insure that each Splitter is properly assembled prior to shipment; however, there may be other causes for malfunction, the following items are presented for your information and as an aid to help your new machine achieve the highest level of efficiency possible.

Problem	Possible Cause
Excessive Vibration	<div><div>1.</div><div>Loose mounting bolts, set screws, bearings or couplings.</div><div>2.</div><div>Misalignment or excessive wear of bearings.</div><div>3.</div><div>Loose set screw in one of the rotor hubs or bearings.</div><div>4.</div><div>Misaligned motor.</div><div>5.</div><div>Bent shaft due to mishandling or material impact.</div><div>6.</div><div>Accumulation of foreign material on the rotor.</div><div>7.</div><div>Excessive wear or erosion of the rotor.</div><div>8.</div><div>Externally transmitted vibration.</div></div>
Inadequate Performance	<div><div>1.</div><div>Splitter rotor rotating in the wrong direction.</div><div>2.</div><div>Splitter rotor running too slow – wrong sprockets.</div><div>3.</div><div>Incorrect testing procedures or calculations, resulting in improper sizing.</div><div>4.</div><div>Splitter adjusting blades above each discharge may be misadjusted.</div><div>5.</div><div>Foreign material may be built up on the splitter blades</div></div>
Excessive Noise	<div><div>1.</div><div>Vibration originating elsewhere in the system.</div><div>2.</div><div>Inadequate or faulty design of structural supports.</div><div>3.</div><div>Nearby sound reflecting surfaces.</div><div>4.</div><div>Loose accessories or components.</div><div>5.</div><div>Loose chain drive or worn sprockets.</div><div>6.</div><div>Worn bearings.</div></div>
Uneven Split or Spread	<div><div>1.</div><div>Rotor running too fast.</div><div>2.</div><div>Material feed into the machine entering at an angle.</div><div>3.</div><div>Multiple Inlets with one or more choked.<div><div>a.</div><div>With multiple inlets, a foreign object could block one gravity line into the splitter.</div><div>b.</div><div>With a slotted type inlet, a foreign object could obstruct flow to part of the rotor.</div></div></div><div>4.</div><div>Weir on the front misadjusted.</div><div>5.</div><div>On the splitter, the fine tune adjusting blades misadjusted.</div></div>
Material backing up in the gravity spout	<div><div>1.</div><div>Motor not running.</div><div>2.</div><div>Broken drive assembly.</div><div>3.</div><div>Rotor running too slow – (sprockets reversed).</div><div>4.</div><div>Rotor running backwards.</div><div>5.</div><div>Rotor worn out from abrasion.</div><div>6.</div><div>Foreign object blocking the gravity line into the splitter.</div></div>
Premature Component Failure	<div><div>1.</div><div>Prolonged or major vibration.</div><div>2.</div><div>Inadequate or improper maintenance.</div><div>3.</div><div>Abrasive or corrosive elements in the product.</div><div>4.</div><div>Misalignment or physical damage to rotating components or bearings.</div><div>5.</div><div>Excessive speed.</div><div>6.</div><div>Foreign object jamming the rotor.</div></div>

TROUBLESHOOTING CONTINUED

REPLACEMENT PARTS

It is recommended that only Kice Manufactured supplied replacement parts be used. Kice Rotary Stream Splitter parts are built to be fully compatible with the original equipment, using specific alloys and tolerances. These parts carry a standard Kice warranty.

When ordering replacement parts, specify the part name,

Kice Serial Number \_\_\_\_\_

Splitter Model # \_\_\_\_\_ Size \_\_\_\_\_

Bearing Size or Shaft Size \_\_\_\_\_

Most of this information is on the metal nameplate attached to the Rotary Stream Splitter housing.

Suggested replacement parts include:

- 2ea. sets of bearings
- 2ea. sets of seals



9. SPECIAL ATEX INFORMATION

The outside of the Rotary Stream Splitter is intended for use in areas in which explosive atmospheres caused by air/dusts mixtures are unlikely to occur or, if they do occur, are likely to do so only infrequently and for a short period only.

The inside of the Rotary Stream Splitter is intended for use withstanding an atmosphere where dust clouds are likely to be present occasionally during normal operation.

When installing an electric motor and other electric or non-electric equipment on the rotary stream splitter, be sure that all those components are suitable for being operated in zone 22, meaning they must fulfil the ATEX-requirements for Group II category 3D equipment.

Potentially dangerous situation during installation and initial start up	Measures that must be applied by the user during installation and initial start up
Sparking in the event of transport accidents.	The rotary stream splitter or the components of the rotary stream splitter must not be dropped during transport – not only because of the risk of personal injury but also due to the risk of sparks being produced.
Welding as a source of sparks.	Welding is not permitted in zones 0, 1 or 2. Bolted connections must be used instead.
Overheat situation of the rotary stream splitter.	The maximum permitted rotation speed of the rotary stream splitter is 1 meter per second (this is 41 r.p.m. for the 18” machine). An overheat situation due to increased friction in zone 22 must be avoided in any case.
Use of non-explosion protected tools when dismantling or assembling the rotary stream splitter.	Only explosion-protected, non-sparking tools must be used when dismantling or assembling the rotary stream splitter.
Build-up of electrostatic charges at all non-earthed (non-grounded) enclosure parts.	During on-site installation, an external grounding wire must be connected to the rotary stream splitter.
Danger of sparking inside the rotary stream splitter when foreign particles, such as stones, metal pieces enter the machine.	Only clean product may be used. Foreign particles such as stones, ferromagnetic metal pieces and non-ferromagnetic metal pieces may NEVER pass the rotary stream splitter.
Potentially dangerous situation during operation	Measures that must be applied by the user during operation
In some installations where combustible dust is present, it can deposit and build up on the external surfaces or in narrow gaps of the rotary stream spreader. That can have an insulating effect and prevent heat produced inside the rotary stream spreader from adequately dissipating from its surfaces. The combustible dust could ignite as a consequence.	The exterior surfaces of the rotary stream spreader must be cleaned periodically, when it is located in a dusty environment. Cleaning is to be done either with a vacuum cleaner approved for use in explosive zones, or with a damp cloth. Solvents or dry wool cloths (risk of sparking) must never be used.

SPECIAL ATEX INFORMATION CONTINUED

Potentially dangerous situation during maintenance and repair	Measures that must be applied by the user during maintenance and repair.
<div>Hazard: When components and connecting parts fail to function properly during their expected service life. The following parts must be replaced at certain intervals:<ul style="list-style-type: none"><li>Replacing the bearings in the rotary stream splitter.</li><li>Replace the bearings in the electric motor</li><li>Replace the clutch between motor and rotary stream splitter (in case there is one).</li></ul></div>	<div>The bearings must be replaced after having finished 90% of their lifetime: this is every <b>12,000</b> hours of operation, preferably by authorized KICE service personnel.</div> <div>Those exchange intervals are calculated to ensure that overheating or sparking as a result of a defective wearing part can be practically excluded. It is recommended that the User installs an operating hour counter in the control cabinet if the operating hours cannot be easily determined by other means. The bearings must be replaced according to the specifications of the manufacturer of the electric motor.</div> <div>The clutch must be replaced according to the specifications of the manufacturer of the clutch.</div>
Danger of sparking inside the rotary stream splitter when foreign particles, such metal pieces are inside the machine.	When replacing parts inside the rotary stream splitter, all bolts and nuts should be locked with Loctite® or a similar adhesive.

ADDITIONAL ATEX SAFETY REQUIREMENTS

Electrical installation must be executed according to EN ISO 60204-1 (a lockable all-phase power switching device must be provided, so the device can be switched off and secured before performing repair work).

ATEX INSTALLATION REQUIREMENTS

Construction of the motor control system must be done under consideration of EN ISO 13849-1.

Electrical components must be mounted by EMC skilled specialists.

The operator or manufacturer of the facility must install an Emergency Stop circuit near the equipment, which is capable of turning off the machine immediately and securely under consideration of EN 13850. The safety circuit “EMERGENCY STOP button -> safety relay -> safe shut down of the drive motor (e.g. by means of motor protection switch)” must at least have performance level PL r=c according to EN ISO 13849-1.

During installation, an electrical repair switch must be installed in order to disconnect the motor, on all poles, from the power supply for service and maintenance activities to eliminate any personnel hazard. The safety circuit “repair switch -> safe shutting down of the drive motor (e.g. by means of motor protection switch)” must at least have performance level PL r=c according to EN ISO 13849-1.

MARKING

The nameplate shall be fixed permanently to the rotary stream spreader and indicate: Name and address of the manufacturer, date of construction, designation or type of rotary stream spreader, serial or identification number, the CE mark, and classification markings.

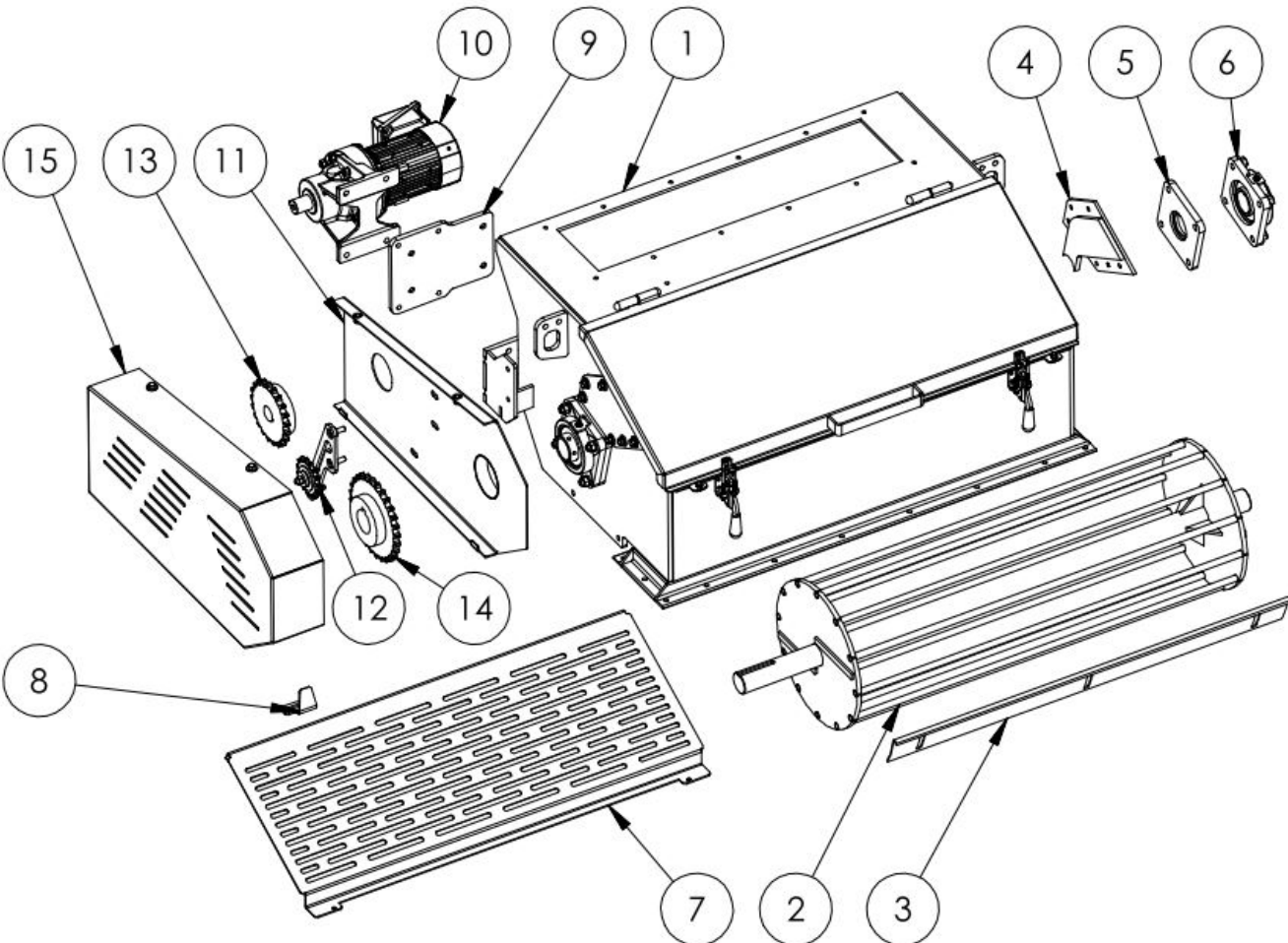


Inside: II 2D Ex h IIIB T85 °C Db 5 °C ≤ Tamb ≤ 35 °C  
Outside: II 3D Ex h IIIB T85 °C Dc 5 °C ≤ Tamb ≤ 35 °C  
Technical File No. 246/16

10. ILLUSTRATED PARTS LIST

Item #	Description
1	Housing
2	Reel**
3	Wier**
4	Removable Endplate Slot Cover**
5	1.75" Seal Plate*
6	1.75" Bearing*
7	Door Screen**
8	Door Bracket*
9	Motor Mount***
10	Gearmotor***
11	Chain Guard Backplate**
12	Idler Sprocket Kit***
13	Driving Sprocket***
14	Driven Sprocket***
15	Chain Guard Cover**

\* Common to all housing sizes  
\*\* Based on housing size  
\*\*\* Based on housing size and final drive rpm



11. ADDITIONAL EQUIPMENT FROM KICE INDUSTRIES, INC.

**CENTRIFUGAL FANS - FANS FOR EVERY INDUSTRIAL NEED**  
Kice fans are durable – built to run around the clock and the calendar, consistently delivering high performance under tough conditions. Four series of versatile workhorse fans are available, including fans and pressure vacuum service operating at both normal and high-pressure differentials.

**BAGHOUSE FILTERS - FULL LINE OF FILTERS/COLLECTORS FOR INDOOR OR OUTDOOR USE**  
Five series of high-ratio filters cover most every type of application. They are available in round, square and modular design for capacity, in a large range of sizes. Kice offers an unexcelled selection of filtering materials.

**POSITIVE DISPLACEMENT BLOWERS - AIR POWERED UNITS FOR PNEUMATIC CONVEYING SYSTEMS**  
Kice manufactures a quality line of positive displacement air pump power units. They utilize either positive or negative air pressure to convey materials through a pneumatic system. Pressures, motor sizes and options are matched to your system requirements. A full range of Kice fabricated accessories is available.

**MULTI-ASPIRATORS - COVERS WIDE RANGE OF INDUSTRIAL APPLICATIONS**  
Kice has developed a line of aspirators for use in the feed and grain, plastics powder/bulk solids industries in a wide range of sizes and capacities. Models include the Multi-Aspirator, the Portable Aspirator and the Mini-Aspirator. Applications include cleaning, testing, separation, and sizing.

**DUST DUCT - DUCTWORK AND FITTING STANDARDS**  
System of pre-engineered piping standards developed especially for air pollution and dust control. Catalog numbering system simplifies design and ordering. Equipment is of solid, sanitary construction, with a smooth aerodynamic design.

**ROTARY AIRLOCKS - WORLD'S MOST COMPLETE LINE OF ROTARY AIRLOCKS**  
Kice builds nearly 100 basic types of airlocks, with thousands of variations available to fit most any pneumatic conveying requirement. Special designs are available for handling difficult materials, high temperatures and high positive and negative pressures. A wide range of capacities is available in both drop-thru and injector series.

# KICE INDUSTRIES, INC.



5500 N. Mill Heights Dr.  
Park City, KS 67219-2358  
(P) 316.744.7151  
(F) 316.744.7355  
[sales@kice.com](mailto:sales@kice.com)

[kice.com](http://kice.com)

