CUSTOMER: WH SURFACE

YOUR ORDER NO: PO 200563

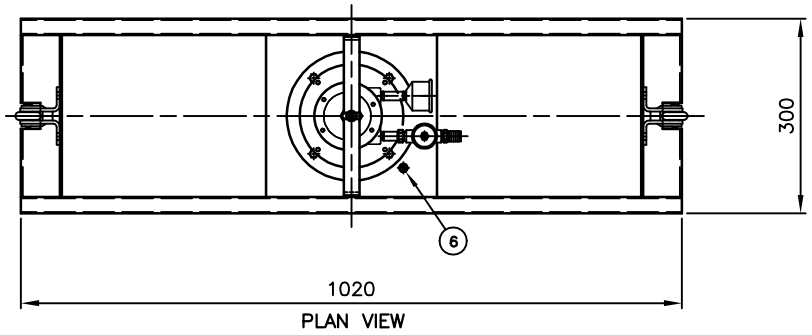
OUR ORDER NO: H-5560-B

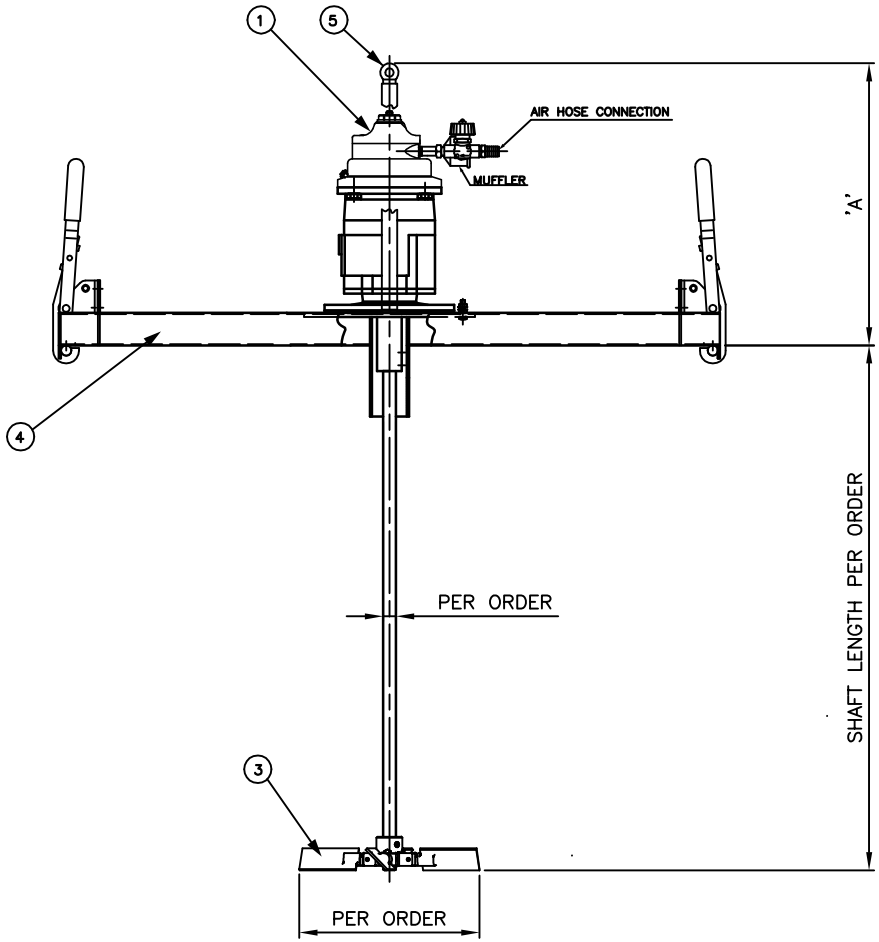
INSTALLATION OPERATION
AND
MAINTAINANCE MANUAL

Mixers for use on an Intermediate Bulk Containers (IBC's)
Electric Drive - original Instructions

Air Motor Drive - original Instructions

ATEX CE Ex II 2 Gc T4 135c





1.50 kW 300 – 1500 5 TO 7 BAR MAX 12 mm 1 DROP / MIN	(1) AIR MOTOR – ATEX 11 2 GD c T4 (135c) SPEED – RPM SUPPLY AIR PRESSURE AIR SUPPLY HOSE – MIN DIA LUBRICATED AIR SUPPLY
316 S. S	(2) MATERIAL OF IN–TANK MIXER PARTS
30 – 236 RPM FOLDING	(3) IMPELLER SPEED (REV/MIN) IMPELLER TYPE–No OF BLADES= 4
IBC FRAME STAINLESS STEEL	(4) MIXER MOUNTING MATERIAL
	(5) LIFTING EYEBOLT
	(6) EARTHING POINT (SEE NOTE 1)

MODEL	MOTOR (kw)	DIMENSION 'A' (mm)	WEIGHT (kg)
HBC–37	.37	425	28
LBC–37	.37	425	28
LBC– 75	.75	445	30
LBC–150	1.5	445	40

NOTE
1/ THE MIXER MUST BE INDEPENDENTLY EARTHED

CLIENT: WH SURFACE
PER ORDER No: PO 200563

DRAWING TITLE: GENERAL ARRANGEMENT DRAWING
MIXER MODEL: IBC – 1.50 Air – ATEX 11 2 G c T4 135c

EUROMIXERS LTD
STOCKPORT

DRAWN BY: KG — DATE: 17–JUNE–2013
CHECKED BY: HS — DATE: 17–JUNE–2013

OUR REF: H-5560-B
DRAWING NUMBER: H-560-1
REV: 0

Contents

Section

DECLARATION OF CONFORMITY

ATEX Directive

Equipment and protective systems intended for use in potentially explosive atmospheres ATEX 994/9/EC) BSEN 13463-1

Machine description
IBC mixer - Air drive

Air motor powers from 0.37 kW to 1.5 kW

Serial Number – H-5560

Model - LBC - 150 Air

Ignition protection c constructional safety.

CE  II 2 G c T4 135c

 Explosion proof symbol

II Group

2 Category

G Gas

c Constructional safety used as the type of protection

T4 Temperature classification, 135c Maximum surface temperature

1.50 kw Air motor power draw at 1400 rpm (see the G.A. drawing for mixer shaft speed)

Additional information

To comply with the directive the mixer must be installed, used and maintained in accordance with the operating instructions supplied with the mixer.

Harmonised Standards

BS EN 13463-1:2001 Non-electrical equipment for potentially explosive atmospheres – Part 1: Basic Method and requirements

BS EN 13463 –5:2002 Non-electrical equipment for potentially explosive atmospheres – Protection by constructional safety (c)

A Technical Dossier has in accordance with the directive been lodged with a Notified Body Baseefa (2001) Limited Health and Safety Laboratory Site, Harper Hill. Buxton DerbyshireSK17-9JN Technical file ref - 4001

We hereby certify that the above range of machinery complies with the ATEX directive. Constructional safety has been used as the type of protection.

Other Directives

Machinery Directive 89/392/EC
By design the mixer is a component and has in accordance with the Machinery Directive 98/37/EC been supplied with a Certificate of Incorporation. The mixer must not be put into service until the machinery into which it is being incorporated has been declared in conformity with the essential health and safety requirements of the Machinery Directive 98/37/EC.

The 'Use' Directive 99/92/EC

The mixer must not be put into service until the area in which it is installed has been declared in conformity with the essential health and safety requirements of the 'Use' Directive 99/92/EC.

Signed Date 1st August 2017

Name –A.H.Stafford Position – Technical Director

Being the responsible person appointed by the manufacturer or nominated representative of the manufacturer established in the EC and employed by

Euromixers Limited

Manufactured by – Euromixers Limited P.O.Box 94 Marple. Stockport. SK6-6WZ. Company registration number 4002267.

1.0 General Instructions

1.1 Inspection

On receiving delivery of your IBC Mixer please inspect carefully to confirm that your mixer has been received un-damaged and to the correct specification, report any shortages or damage immediately in writing to the carrier or Euromixers Limited, contact details can be found at the back of this manual.

1.2 Storage

Store in an indoor, clean, dry location with a controlled temperature of 15c to 40c until the mixer is ready to be used.

1.3 Description

Euromixers unique range of IBC mixers are designed for use on Industry standard Intermediate Bulk Containers (IBC) with a 150mm screw caps and are suitable for most container types.
The IBC mixer is declared in conformance for use in ATEX zone (Hazardous area) please refer to the General Arrangement drawing and certification for details.
Supported on a lightweight stainless steel bridge the IBC mixer mounts directly onto the IBC and is held in place with quick action toggle clamps, standard lifting is an eye bolt for lifting with a hoist or optional fork lift module.
Euromixers E-400 folding impeller is designed to fit through a standard 150mm screwed cap opening.

1.4 Safety

Specific conditions for safe use.
This mixer must only be used with liquids with a high conductivity > 1000 pS/m
The mixer must be independently earthed.
The mixing impeller / impellers must be covered by liquid

- Observe all site safety procedures installing and operating your IBC mixer
- Familiarize yourself with the material being mixed in the IBC and obtain product safety data sheets, protective clothing and appropriate eye protection before proceeding.
- Use lifting equipment i.e. fork lift or hoist to install the mixer onto an IBC mixer mass in Kg is indicated on the mixer nameplate.
- Mount the mixer securely onto the IBC complete with shaft and impeller before connecting to the air supply.

- Do not touch any moving / rotating parts.
- Adjust the flow control valve so that the mixer runs smoothly without vibration.
- Disconnect from the power supply before moving the mixer or carrying out maintenance.

WARNING - Failure to observe safety instructions could cause severe personal injury.

2.0 Installation and Operation

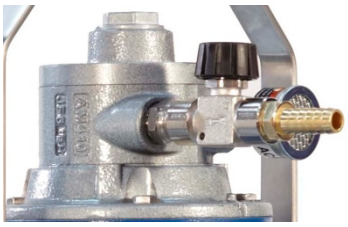
2.1 Installation

The mixer is ATEX certified for use in a zoned area (Hazardous area) – please refer to the GA drawing for details.

Ensure that the mixer is independently earthed using the earth point located on the mixer bridge.

Air supply - The air motor requires a supply of clean lubricated compressed air, adjust the air line lubricator to 1 drop of oil per minute.
Regulate the line pressure to 7-bar max.

Check that the mixer shaft direction of rotation corresponds to the rotation arrow on the mixer nameplate – rotation is clockwise when viewed from above.



The flow control valve fits on the Left Hand port of the air motor and the Exhaust on the Right Hand side as shown in the photograph.

Fit the impeller on to the mixer shaft, **dimple the shaft** on assembly for the set screws and tighten securely.

Fit the mixer shaft into the drive head coupling and tighten the 2 set screws Item 5 through the slot provided in the coupling guard

Lower the mixer on to the IBC frame with a forklift truck or hoist. The mixer mass in Kg is indicated on a nameplate attached to the equipment.

Securely fasten the mixer onto the IBC frame with the 2 clamps provided

Dis - connect the air supply from the Air motor before removing the mixer from the IBC.

Check that the securing clamps have been released before lifting / removing the mixer from the IBC the clamps are fitted with a locking plunger – pull the button to release as illustrated.

2.2 Operation

Before operation check that the mixer is earthed, Check the gearbox temperature indicator to ensure the gearbox is not overheating, visually check that all components, airlines are in a serviceable condition - not damaged.
The mixer speed is regulated with a needle valve, which can be adjusted to obtain the desired level of mixing - adjust the air flow with the needle valve so the mixer runs smoothly avoiding vibration.
To minimize noise operate the mixer at the lowest speed acceptable to obtain satisfactory mixing. Damage may result if the air motor is not allowed to "run free" at high speeds with no load or poor lubrication.

The mixing impeller / impellors must be covered by liquid by a minimum of 150mm – do not operate below this level.

2.3 Fault Diagnosis

Fault diagnosis Air drive IBC Mixers

Fault	Possible cause	Action
Mixer motor runs but not mixing the IBC contents very well	Impeller rotating in the wrong direction	Check that the direction of rotation corresponds with the arrow on the mixer nameplate & that the flow control and muffler are on the correct ports. Rotation is clockwise then viewed from above.
	Shaft loose in the drive coupling	Check shaft retaining grub screws are tight.
	Folding impeller not opening	Check that the impeller is installed so the blades hang downwards when not operating.
	Product different – higher SG or viscous product being mixed.	Contact Euromixers or your local distributor for advice.
Motor does not run	Air motor seized	Flush the air motor. Check that the air motor has a clean lubricated air supply Check and top up the air line lubricator & adjust if required.
Air motor runs slowly	Poor air line lubrication	Check the air line lubricator top up and adjust if required
	Excessive dirt / wear particles inside the air motor	Flush the air motor. Check that the air motor has a clean lubricated air supply. Check and top up the air line lubricator & adjust if required.
	Flow control valve or fittings damaged.	Check and replace
	Exhaust muffler blocked	Clean muffler and replace the felt element.
	Product different- higher SG or viscosity product being mixed.	Contact Euromixers or your local distributor for advice.

3.0 Maintenance

3.1 Routine maintenance

Weekly – Air supply to the mixer motor - check the air line lubricator oil level and top up with oil if necessary using a detergent SAE #10 engine oil

Every month. – Check the gearbox temperature indicator to ensure the gearbox is not overheating.

Every 6 months. - Check the security of all nuts and screws, and ensure all components are in a serviceable condition and not damaged.

Check that the mixer gearbox and Air motor muffler are kept clean.

Visually inspect components and air lines for damage and rectify before use.

3.2 Tightening torques

Tighten all fasteners to values shown unless specifically instructed to do otherwise. Lubricate all fasteners at assembly with grease, oil or an anti-seize material. Bolt threads and contact surfaces of bolt heads and nuts should be lubricated. The assembly on un-lubricated stainless steel fasteners cannot be recommended.

(1) If fasteners cannot be lubricated, multiply table values by 1.25.

THREAD SIZE	STAINLESS STEEL(1)
	A2 / A4 - 70
	Nm
M6	7.0
M8	17.0
M10	33.0
M12	57.0
M16	140.0

3.3 Lubrication

The gearbox is factory filled with Shell 220 grade synthetic lubricant & sealed for life.

Air line lubrication – use SAE# 10 motor oil or equivalent for the air line lubrication

3.4 Air Motor – Flushing

Flush the motor if it is operating slowly or inefficiently. Flushing the air motor removes excessive dirt, foreign particles, moisture or oil that occurs in the operating environment and will help to maintain proper vane performance / motor efficiency.

3.5 Safety

- Flush the air motor in a well ventilated area. Keep face away from exhaust port. Eye protection must be worn.

*Use Gast # AH255B Flushing Solvent, or any non-toxic, non-flammable industrial cleaning solvent. **DO NOT** use paraffin or **ANY** other combustible solvents to flush this air motor.*

To flush: disconnect air line and muffler and add flushing solvent directly into the motor. If using liquid solvent, pour several table spoonful directly into the inlet port. If using Gast # AH255B, spray solvent for 5-10 seconds into the inlet port. Rotate the shaft by hand in both directions for a few minutes, Eye protection must be worn for this step. Cover the exhaust with a cloth and reconnect the air line. Slowly apply pressure until there is no trace of solvent in exhaust air. Re-lubricate the motor with a squirt of oil into the inlet port.

If performance is not improved the vanes may need replacing remove the end plate opposite the drive shaft end. Do not pry with a screwdriver. A puller tool should be used which will remove the end plate while maintaining the position of the shaft. New vanes should have the edge with the corners cut on an angle towards the bottom of the vane slot.

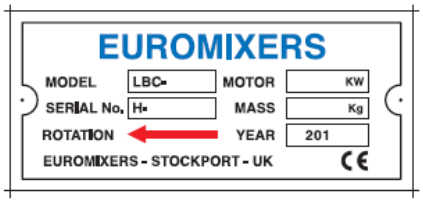
Danger - To prevent explosive hazard **DO NOT** drive this air motor with combustible gases.

4.0 Supplementary Instructions & Drawings

Mixer assembly drawing

Air motor drawing

4.3 Mixer shaft – direction of rotation



The direction of rotation for the mixer shaft is clockwise when viewed from above as indicated on the mixer nameplate.

The flow control valve is fitted on the Left hand port on the air motor and the Exhaust muffler on the RH side as indicated in the photograph

4.4 Impeller installation

E-400 Impeller operating

The E-400 folding impeller is normally mounted on the end of the shaft as illustrated, for viscous materials Dual (2) Impellers ensure a good top to bottom turnover in the IBC with the second impeller positioned approximately half way up the shaft, Dual (2) impellers can also be used for wetting powders with the upper impeller positioned approximately 150mm below the liquid surface.

A low level radial flow fixed impeller can also be supplied for mixing the IBC contents at very low liquid levels – Install below the folding impeller as illustrated a 1000mm long shaft is available with this option to position the lower impeller close to the bottom of the IBC.

E-400 Impeller & Low level impeller

5.1 Material disposal

Euromixers IBC mixers are designed for a long trouble free life at the end of the useful service life the lubricants and components can be re-cycled.

The IBC mixer frame shaft and impeller are manufactured from stainless steel and the gearbox and air motor from cast iron.

Properly dispose of all mixer and gearbox parts responsibly in particular lubricants which must be collected for disposal or re-cycling in accordance with local authority guidelines.

5.0 Spare Parts

5.1 Ordering spare parts

To maintain your IBC mixer only Euromixers genuine spare parts are recommended to ensure safe reliable operation of your mixer pleased contact your local distributor for spare parts.

5.2 Air motor spares

Spare parts kits are available for servicing the air motor.

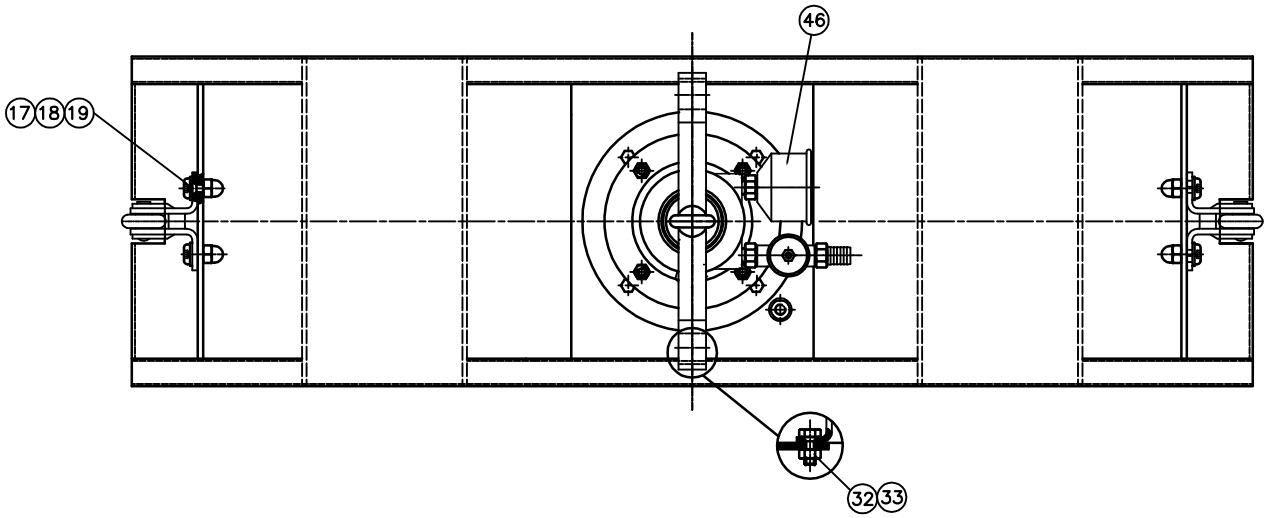
To order please state

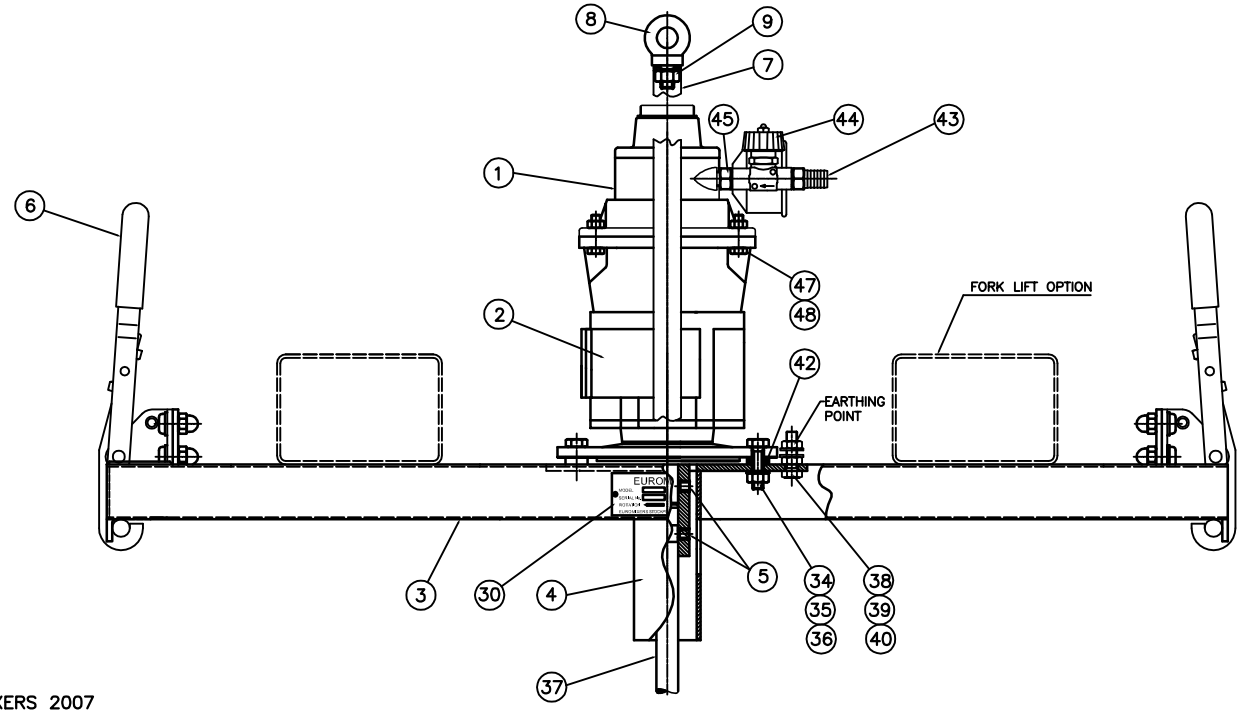
Mixer model
Serial Number: H- which is indicated on the mixer nameplate.

Item number
Description and quantity

Manufactured by
Euromixers Limited
P.O.Box 94
Marple
Stockport
SK6 6WZ
United Kingdom

Tel +44 (0) 161 449 8559
Fax +44 (0) 161 426 0456
Email sales@euromixers.co.uk
Web www.euromixers.co.uk





ITEM	DESCRIPTION	QTY
1	AIR MOTOR	1
2	GEARDRIVE	1
3	MOUNTING FRAME	1
4	DRIVE COUPLING	1
5	HEXAGON SOCKET SETSCREW	4
6	QUICK ACTION TOGGLE CLAMPS	2
7	LIFTING STRAP	1
8	LIFTING EYEBOLT	1
9	HEXAGON NUT	1
17	BUTTON HEAD SCREW	8
18	HEXAGON DOMED NUT	8
19	PLAIN WASHER	4
30	NAMEPLATE	1
32	HEX HEAD SCREW	2
33	HEXAGON NUT	2
34	HEX HEAD SCREW	4
35	HEXAGON NUT	4
36	PLAIN WASHER	4
37	LOWER SHAFT	1
38	HEX HEAD SCREW	1
39	HEXAGON NUT	2
40	PLAIN WASHER	2
42	STAINLESS STEEL SPACER	4
43	HOSETAIL	1
44	FLOW CONTROL VALVE	1
45	HEXAGON NIPPLE	1
46	MUFFLER	1
47	HEX HEAD SCREW	4
48	HEXAGON NUT	4

CLIENT: WH SURFACE

PER ORDER No: PO 200563

DRAWING TITLE: MACHINE ASSEMBLY DRAWING

MIXER MODEL: IBC MIXER WITH AIR MOTOR -- ATEX

EUROMIXERS LTD
STOCKPORT

DRAWN BY: KG — DATE: 10-APRIL-2012

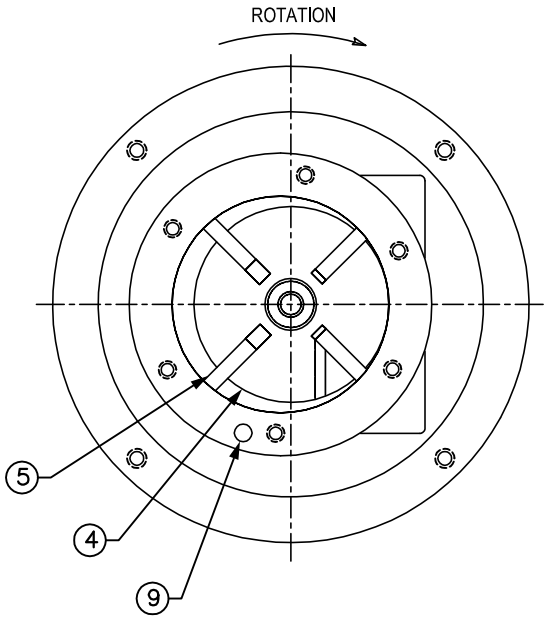
CHECKED BY: HS — DATE: 10-APRIL-2012

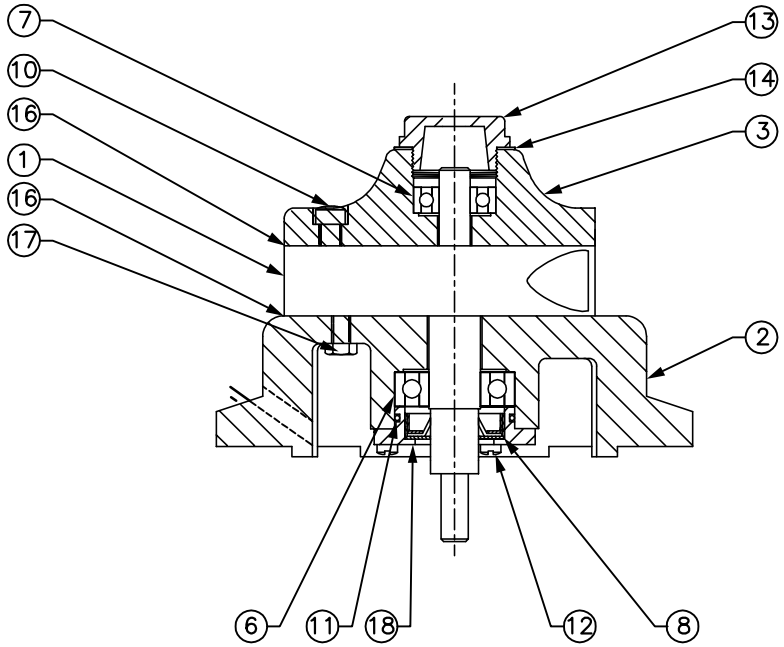
OUR REF: H-5560-B

DRAWING NUMBER: AA-1203

REV:

ITEM	DESCRIPTION
1	ROTOR HOUSING
2	LOWER BEARING HOUSING
3	UPPER BEARING HOUSING
4	ROTOR & DRIVE SHAFT ASSEMBLY
5	ROTOR VANE (4 REQ'D)
6	BALL BEARING
7	UPPER BALL BEARING
8	SHAFT SEAL
9	DOWEL PIN
10	FILLISTER HEAD MACHINE SCREW
11	O RING
12	FILLISTER HEAD MACHINE SCREW
13	END CAP ASSEMBLY
14	GASKET
15	
16	GASKET
17	HEX HEAD CAP SCREW
18	BEARING RETAINER
19	PUSH PIN





DRAWING TITLE:	ASSEMBLY DRAWING
MIXER MODEL:	FLANGE TYPE AIR MOTOR ASSEMBLY
EUROMIXERS LTD STOCKPORT	DRAWN BY: HS — DATE: 17-JUNE-2013
	CHECKED BY: HS — DATE: 17-JUNE-2013
OUR REF: H-5560-B	DRAWING NUMBER: H-5560-2 — REV: 0

CLIENT: WH CONSTRUCSION

PER ORDER No: PO 200563