



INDUSTRIAL BOILERS
A M E R I C A



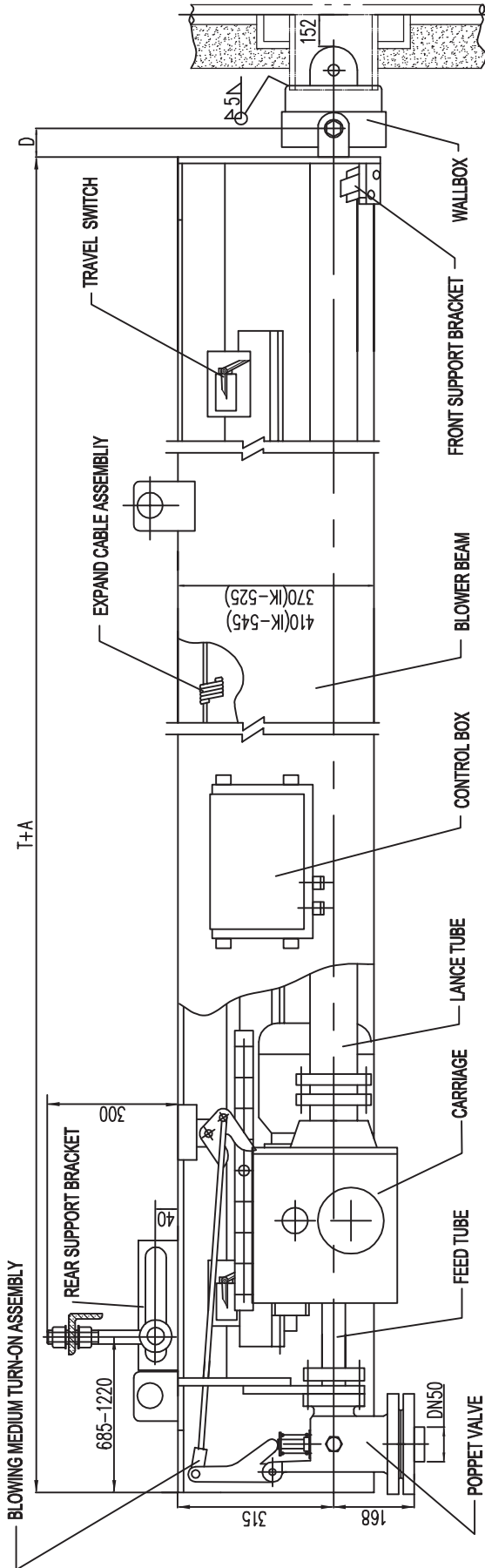
Model L

BLO Series

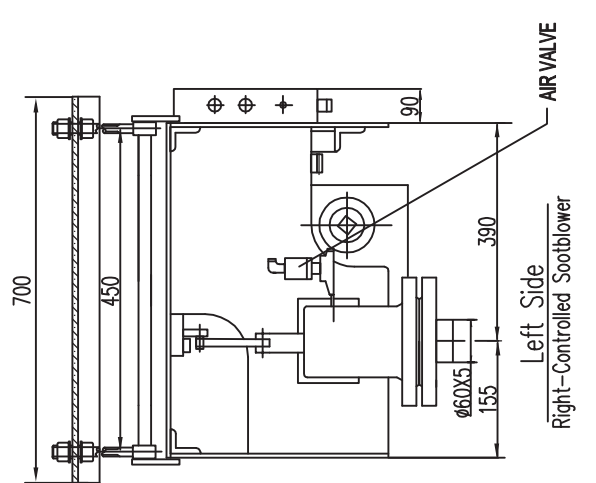
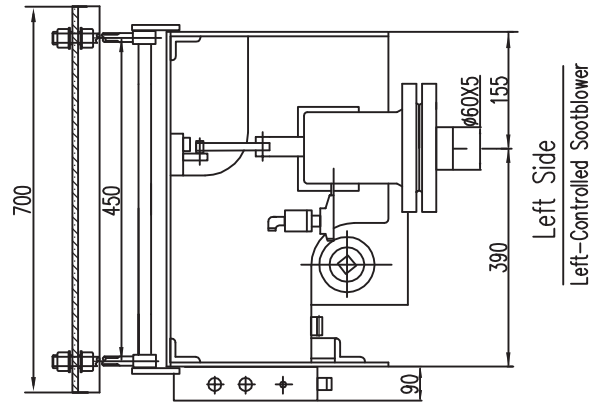
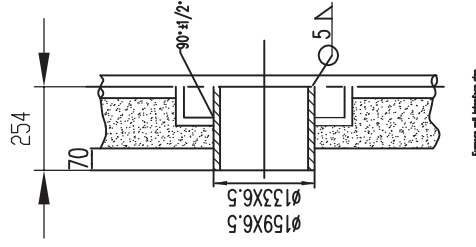
**Retractable
Sootblower**

Model L models also replace IK4M, IK510, and other retractable soot blower models

Model L Long Retractable Sootblower



Type	T(Travel): m	A: mm	D: mm
IK-525	-7.62	990	89
	7.63-10.36	1200	
	10.37-11.58	1354	
IK-545	11.59-12.80	1506	108
	12.81-13.72	1660	



Long Retractable Sootblower

The Model IK-525 and IK-545 Sootblowers are applied to the cleaning of heating surfaces of boilers fired with ash producing fuels. The blowers are principally used to remove slag and ash deposits from slag screens, superheaters, reheaters and economizers. They are also used to clean deposits from the underside of the furnace arches and for cleaning tubular air heaters.

Individual components and parts identification of the sootblowers for each contract are illustrated on the

Model L Sootblower Main Technical Data:

Travel speed: 0.9~3.5m/min Blowing angle: 360°

Blowing pressure: ≤2Mpa

Efficient blowing radius: ~2m(78.7")

Blowing travel: ≤7.6m(299")IK-525

7.6~13.7M(299"~539")IK-545

Nozzle number: 2(4, 6, 8)

Nozzle bore: φ19-φ31.75mm

Medium consumption: ~73Kg/min

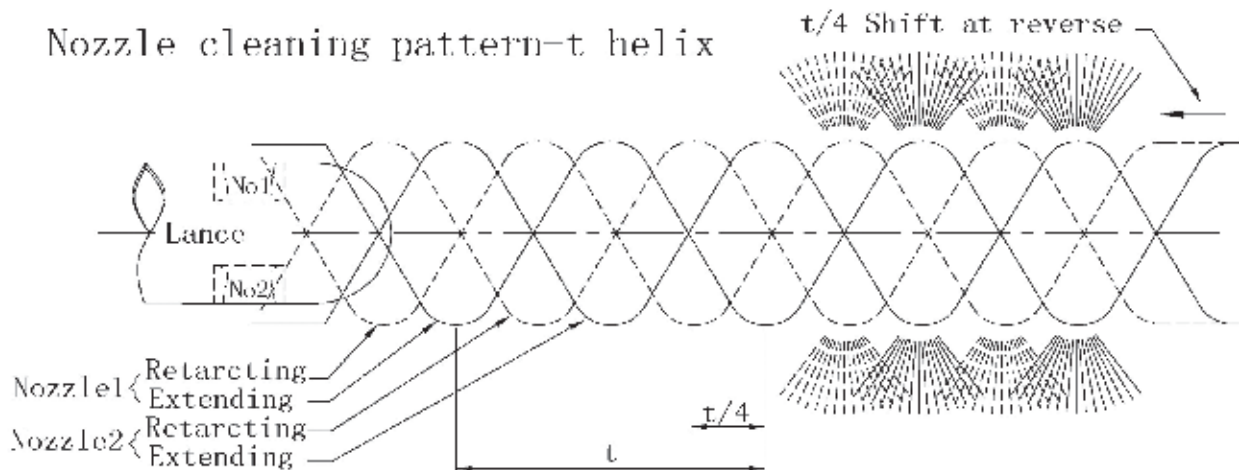
Electric motor: 1.1KW/3P/50Hz(IK-525)

1.5KW/3P/50Hz(IK-545)

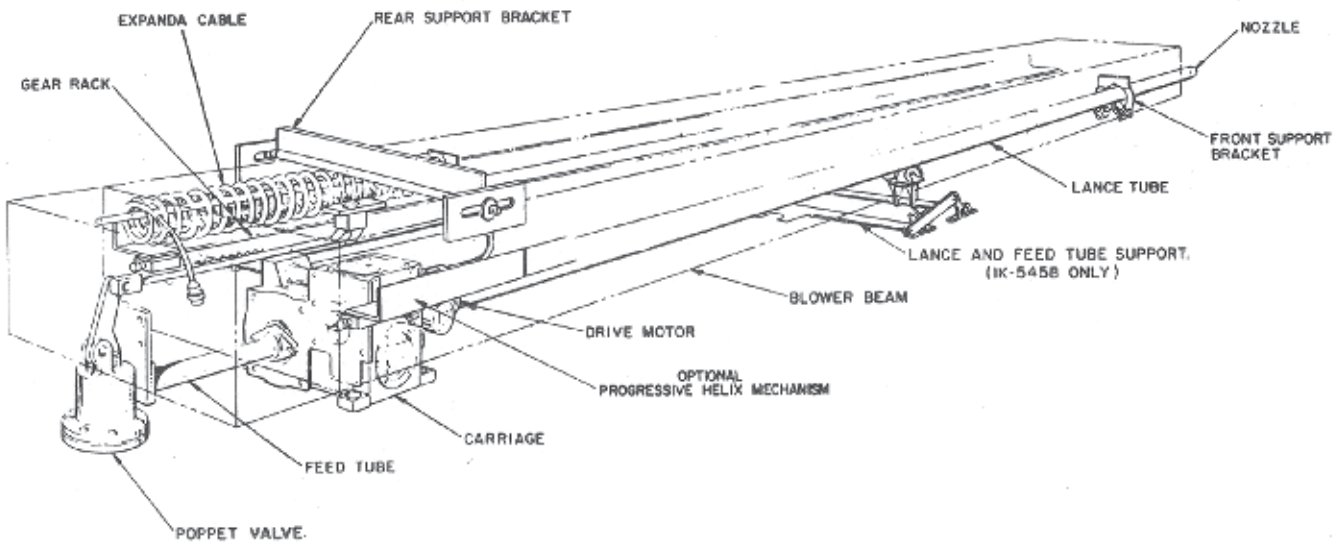
Model L Speciality :

- High-efficiency venturi nozzle can make sure of the good use of blowing medium.
- Dual rack, pinion drives and rack drive designs make the sootblower move in a more balanced way.
- The change of control disc will adjust the pressure of blowing.
- Unique soft valve base design will not affect the sealing performance with a change in temperature.
- The enclosed construction of the box-type beam provides the maximum protection for all working parts.
- Effectively protect from beam to stretch cable extend the longevity
- Variable cross section lance structure reduces sootblower's roll degree to the maximum extent.
- The front bracket has double rolls. Adjustable angle design ensures the connection between the lance and roll and move neatly without the lube inserting the nozzle.
- Helix phase change mechanism makes the nozzle phase different when blown.

Nozzle cleaning pattern-t helix



Model L Sootblower Overall View



1. Drive Motor

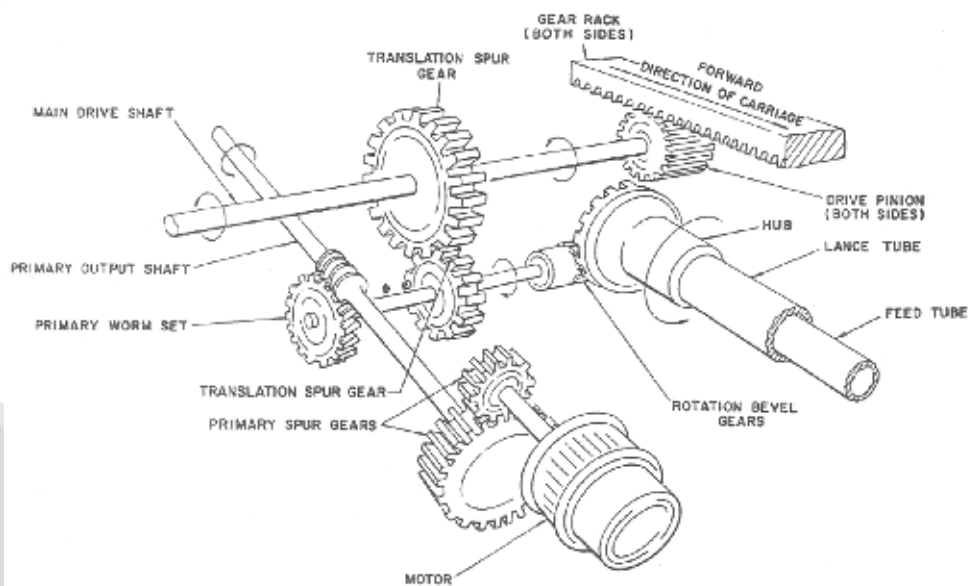
The electric motor normally operates on 230/460 volts. It is 1-1/2 horsepower, 1725 rpm and has a NEMA C flange that mounts directly to the carriage.

2. Carriage

The carriage assembly drives the blower lance tube into and out of the boiler. It contains the drive motor, gear box and a packing gland, which confines the blowing medium in the lance and feed tubes. The motor drives a set of spur gears for a primary reduction or increase in speed to the main gear box. These gears are external to the main gear box and are readily accessible for changing the single train speeds of the carriage when the helix is changed. It will also be necessary to change the translation spur gear set. The gear train is illustrated in the figure. The standard travel speeds and helices listed are indicated on the carriage parts identification form.

The primary output shaft from the primary spur gears drives a worm set in the main gear box for the major speed reduction. The output shaft from the primary worm set operates spur gears for translation and bevel gears for rotation of the lance tube.

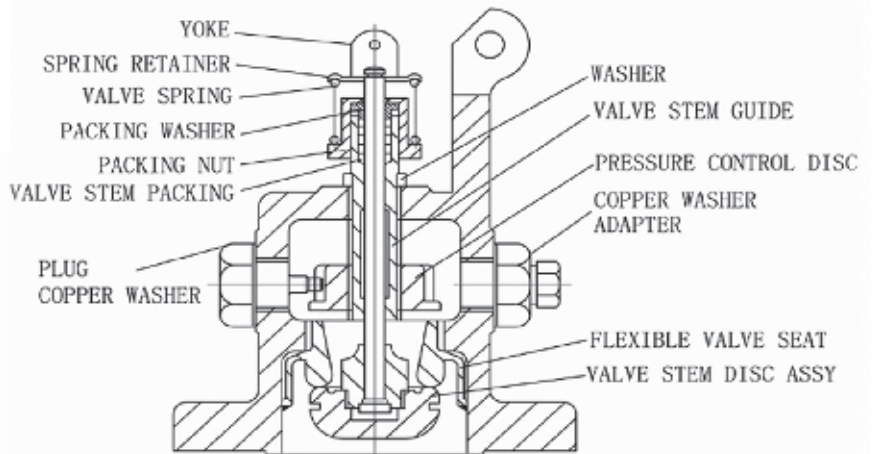
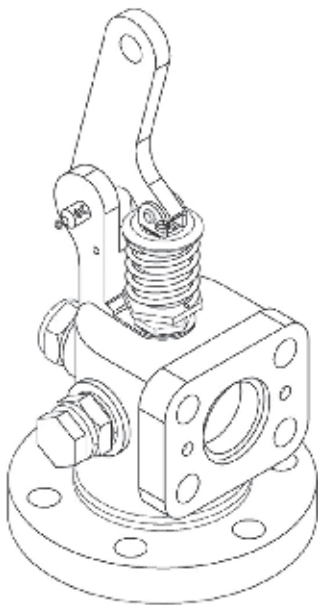
The carriage hub contains the mounting flange for the lance tube and a packing gland to seal the feed tube. The carriage is completely sealed for maximum protection from dirt and corrosive atmosphere.



3. Poppet Valve

The mechanically operated poppet valve is located at the extreme rear of the blower. This valve can be used with steam or air as the blowing medium and has an adjustable pressure control. The opening and closing of this valve is automatically controlled by the travel of the blower carriage. An adjustable trip pin on the carriage assembly operates the cam and arm assembly to automatically open or close the poppet valve to supply the blowing medium when the lance tube is in the blowing position. The trip pin is illustrated in the figure. The valve will close automatically when the unit has retracted to the non-blowing position.

Special applications may require that the poppet valve be replaced with a diaphragm operated blowing medium admission valve.



4. Wallbox

Each wallbox contains two holes located on a horizontal line. Shoulder bolts from the front support enter these holes and transfer the load (approximately one-half of a sootblower's weight) to the wallbox. The type of wallbox depends on whether the blower is installed on a positive or negative pressure boiler. Each type of wallbox is described below.

5. Lance and Feed Tube Support

The lance and feed tube support is located near the midpoint of the blower beam on blowers with travel exceeding 25 feet. It supports both the lance and feed tube during the first half of forward travel and only the feed tube during the last half of forward travel.

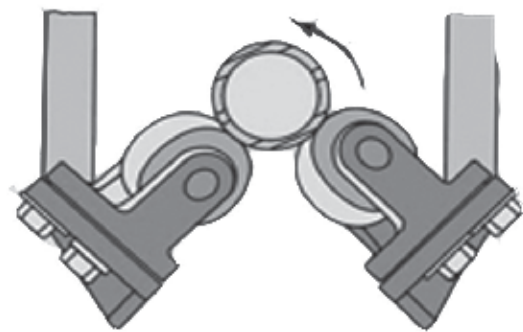


6. Front Support Bracket

The front support bracket is located at the front of the blower beam and is affixed to the wallbox casting. This bracket carries approximately a half the blower weight and contains rollers at its base that support and guide the lance tube through the wallbox and into the boiler. It is important to maintain proper adjustment of these rollers in relation to the lance tube helix as illustrated in the figure.



Right Control Sootblower



Left Control Sootblower

7. Feed Tube

The feed tube is a highly polished stainless steel tube used to supply the blowing medium to the lance tube. For specific applications, the feed tube may be chrome plated to increase surface hardness.

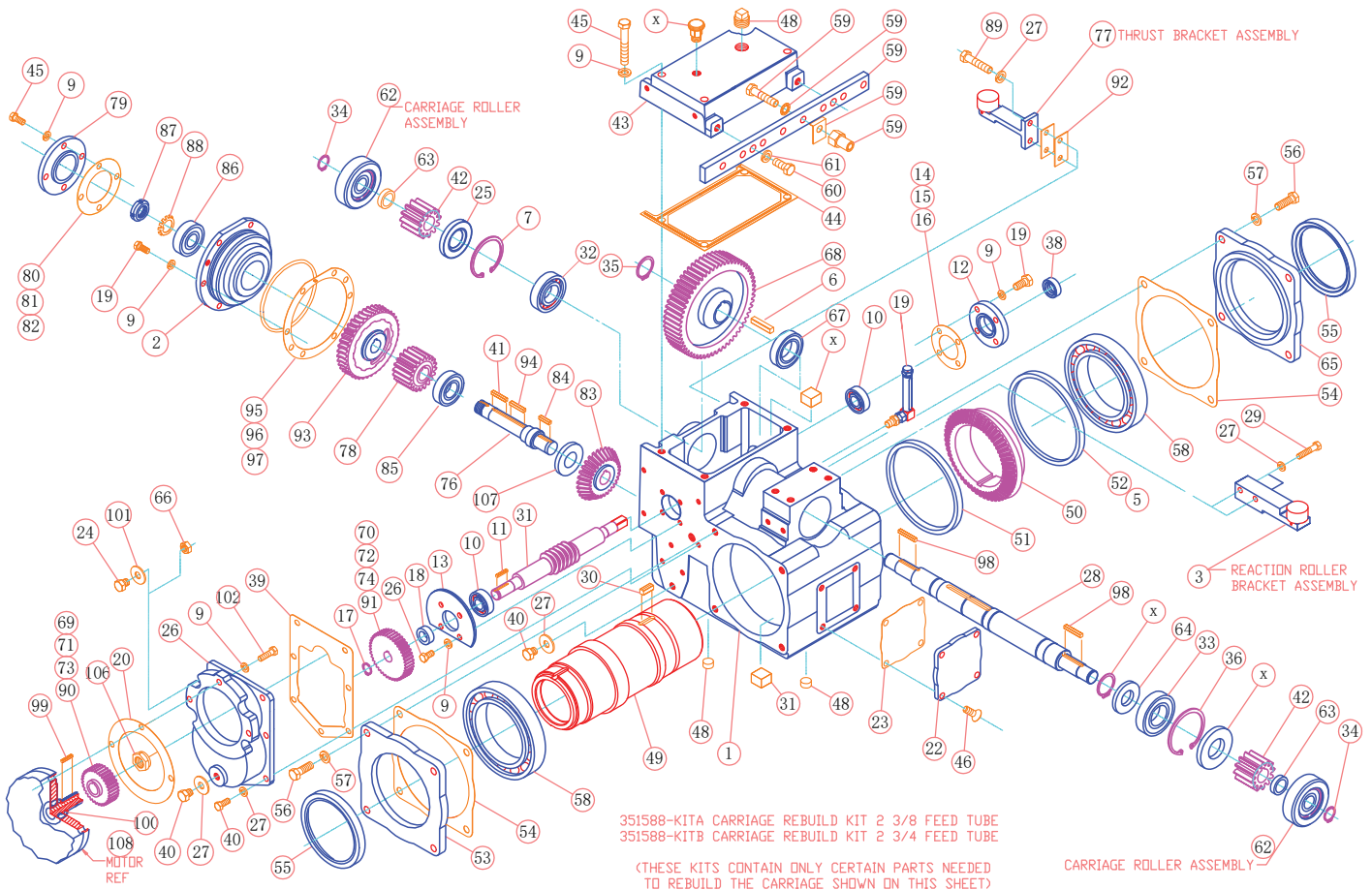
8. Lance Tube

Lance tubes are made of different types of steel, depending on the requirements of each sootblower. If there is more than one type of lance tube on a boiler, it is important to install the correct lance tube in each location. The lance tube is supported at the carriage and at the front of the blower. The blowers with travel exceeding 25 feet have an additional support near the midpoint of the blower beam. The two rollers on the front support bracket are adjusted to rotate at the same angle as the lance tube helix.

9. Nozzle

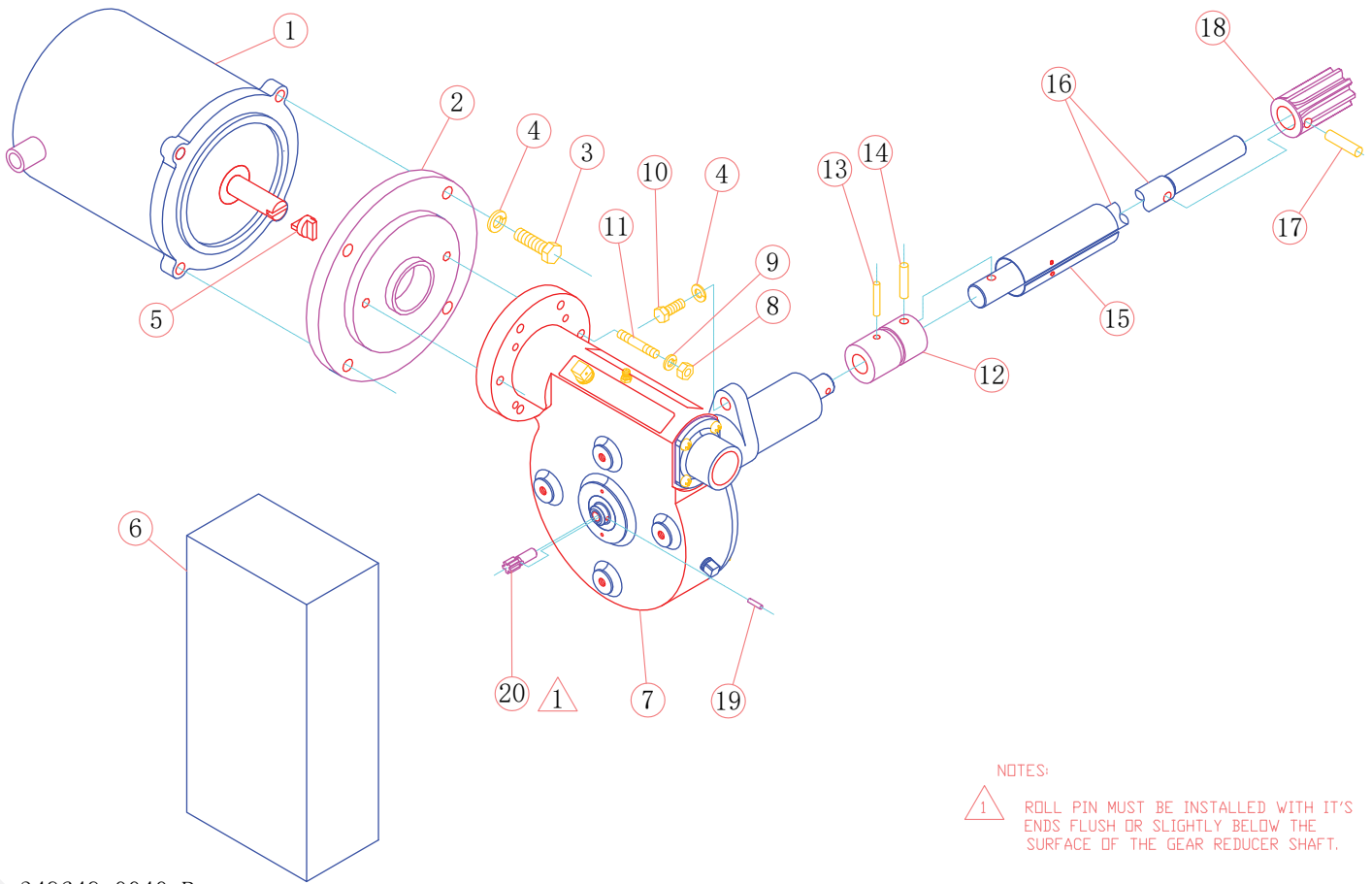
The lance tube contains a spun closed nozzle block with openings that are positioned vertically, lead or lag depending upon the cleaning application. The size and number of the openings are determined by the blowing medium flow and pressure requirements for each sootblower's location. It is important to install the correct nozzle in each location. The nozzles are balanced at the factory to ensure equal thrust from the opposing jets to prevent lance whipping.





DET	PART NUMBER	DESCRIPTION	QTY	DET	PART NUMBER	DESCRIPTION	QTY	DET	PART NUMBER	DESCRIPTION	QTY
1	B32784-1148	HOUSING	1	42	B24188-1121	Z12 PINION	2	84	GB1096	8x32 KEY	1
2	B23421-1138	CARRIER BEARING	1	43	B47312-000A	COVER PLATE ASSY	1	85	GB276	206 BALL BEARING	1
3	B24157-1029	BRACKET ASSY	1	44	323447-2128	GASKET	1	86	GB276	207 BALL BEARING	1
4	JB283	20 LIQUID LEVEL GAUGE	1	45	GB5783	M8x16 SCREW	10	87	GB810	M24x1.5 LOCKNUT	1
5	343444-1121	SPACE	1	46	GB819	M8x16 SCREW	4	88	GB858	24 LOCK WASHER	1
6	GB1096	10x50 KEY	1	48	405021-010A	1/2"NPT PLUG	3	89	GB5783	M10x25 SCREW	2
7	GB893	62 RETAINING RING	1	49	B23416-1135	70 HUB	1	90	B93223-1123	Z48 SPUR GEAR	1
8	GB1153	45p xM10x1 LUB FITTING	2		B23419-1132	60 HUB	1	91	B23426-1125	Z26 SPUR GEAR	1
9	GB93	8 LOCK WASHER	24	50	B23423-1136	Z56 BEVEL GEAR	1	92	324130-1120	SHIM	2
10	GB292	66204 BALL BEARING	2	51	907920-0061	RETAINING RING	1	93	405158-010A	WORM GEAR 40@ 1	1
11	GB1096	6x25 KEY	1	52	907920-0052	RETAINING RING	1	94	GB1096	8x32 KEY	1
12	405247-010A	FLANGE	1	53	B23418-1131	RETAINER9 BEARING	1	95	324264-1128	0.10 SHIM	AR
	B44898-1039	FLANGE ASSY	1	54	323449-2126	GASKET	2	96	324264-2126	0.20 SHIM	AR
13	323456-1128	RETAINER9 BEARING	1	55	R03001-0001	PACKING	2	97	324264-3124	0.50 SHIM	AR
14	323451-1123	0.10 SHIM	AR	56	GB5783	M16x40 SCREW	8	98	GB1096	6x40 KEY	2
15	323451-2121	0.20 SHIM	AR	57	GB93	16 LOCK WASHER	8	99	GB1096	8x28 KEY	1
16	323451-3129	0.50 SHIM	AR	58	GB279	6024-Z/C9 BALL BEARING	2	100	B93221-1125	DISTANCE PIECE	1
17	GB894	20 RETAINING RING	1	59	B23443-1025	TRIP BAR ASSY	1	101	GB93	10 LOCK WASHER	3
18	332198-1122	SPACE	1	60	GB5783	M12x30 SCREW	2	102	GB70	M8x16 SCREW	4
19	GB70	M8x20 SCREW	1	61	GB93	12 LOCK WASHER	2	106	GB894	24 RETAINING RING	1
20	405313-010A	GASKET	1	62	B24124-1029	ROLLER ASSY	2	107	908502-0033	OIL SEAL	1
21	335592-1127	PLATE	1	63	324128-1124	SPACE	2	108	405001-0026	1.5KW 1.1KW MOTOR	1
22	339257-2123	PLATE	1	64	HG4-692	PG45x70x12 OIL SEAL	1				
23	339258-1124	GASKET	1	65	B23418-2131	RETAINER9 BEARING	1				
24	GB5783	M10x35 SCREW	3	66	GB6170	M10 NUT	3				
25	HG4-692	PD35x62x12 OIL SEAL	1	67	GB279	180108 BALL BEARING	1				
26	405142-010A	GEARS HOUSING	1	68	B24125-1127	Z59 SPUR GEAR	1				
27	GB93	10 LOCK WASHER	10	69	B33223-1129	Z35 SPUR GEAR	1				
28	B24122-1138	SHAFT9 PINION	1	70	B33224-1128	Z39 SPUR GEAR	1				
29	GB5783	M10x45 SCREW	1	71	B33221-1121	Z23 SPUR GEAR	1				
30	405288-010A	KEY	1	72	B33222-1120	Z51 SPUR GEAR	2				
31	B32429-1131	WORM SHAFT 40@ 1	1	73	B93222-1124	Z42 SPUR GEAR	1				
32	GB279	180107 BALL BEARING	1	74	B23428-1123	Z32 SPUR GEAR	1				
33	GB279	180208 BALL BEARING	1	76	B23439-1120	SHAFT	1				
34	GB894	25 RETAINING RING	2	77	B24121-1022	BRACKET ASSY	1				
35	GB894	38 RETAINING RING	1	78	B23435-1124	Z20 SPUR GEAR	1				
36	GB893	80 RETAINING RING	1	79	B23452-1122	RETAINER9 BEARING	1				
38	HG4-692	PG20x35x10 OIL SEAL	1	80	323461-1121	0.10 SHIM	AR				
39	323446-1121	GASKET	1	81	323461-2129	0.20 SHIM	AR				
40	GB5783	M10x25 SCREW	1	82	323461-3127	0.50 SHIM	AR				
41	GB1096	8x45 KEY	1	83	B23434-1125	Z30 BEVEL GEAR	1				





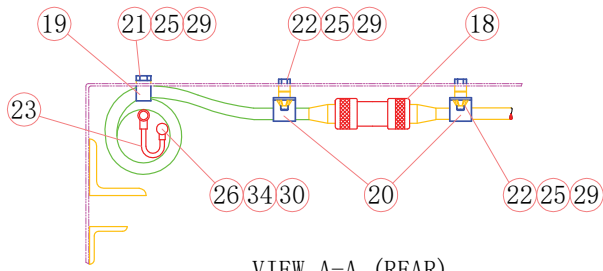
NOTES:

△ ROLL PIN MUST BE INSTALLED WITH IT'S ENDS FLUSH OR SLIGHTLY BELOW THE SURFACE OF THE GEAR REDUCER SHAFT.

349649-0040-B

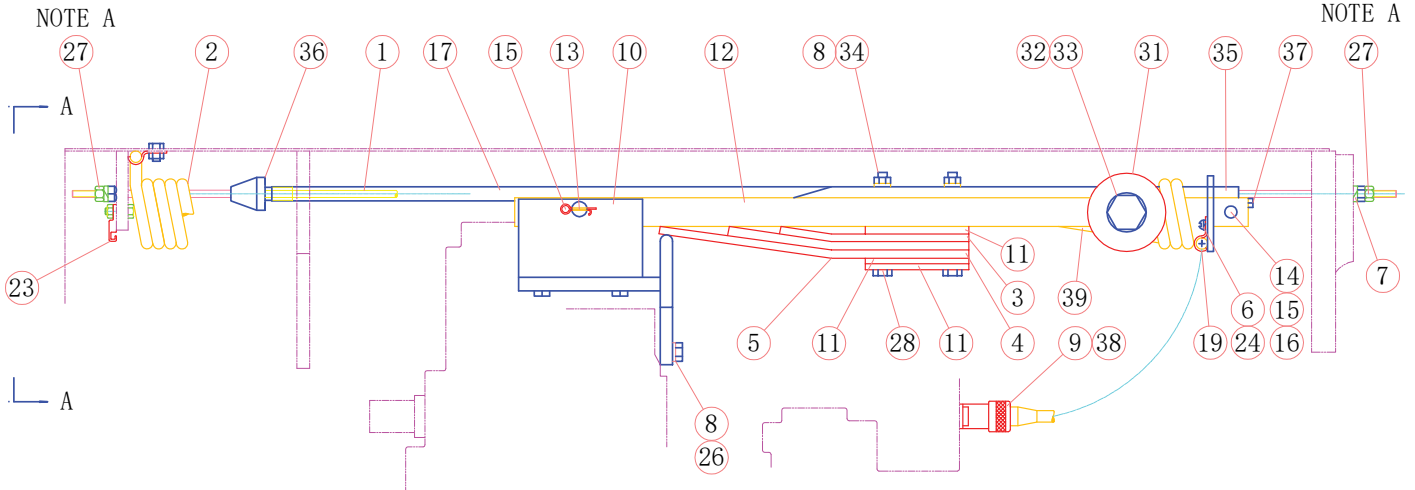
DET	PART NUMBER	DESCRIPTION	QTY
1	Ao2-6324 B5	MOTOR	1
2	405002-0124	FLANGE	1
3	GB70	M8x25 SCREW	4
4	GB93	8 LOCK WASHER	4
5	301138-0114	DRIVE KEY	1
6	PER ORDER	CONTROL BOX	1
7	349555-000A	GEAR REDUCER ASSY	1
8	GB6170	M6 NUT	2
9	GB93	6 LOCK WASHER	2
10	GB5783	M10x25 HEX HEAD CAP SCREW	1
11	GB899	M6x25 SCREW	2
12	349650-010A	SHAFT OUTPUT COUPLING	1
13	GB879	5x28 ROLL PIN	1
14	GB119	6x30 LONG ROLL PIN	1
15	310524-2121	COUPLING SHIELD	1
16	349651-010A	OUTPUT SHAFT	1
17	GB879	8x32 ROLL PIN	1
18	339302-1120	DP=8/10 Z=8 PINION	1
19	GB879	3x14 ROLL PIN	1
20	301206-2117	GEAR DP20 Z=5	1





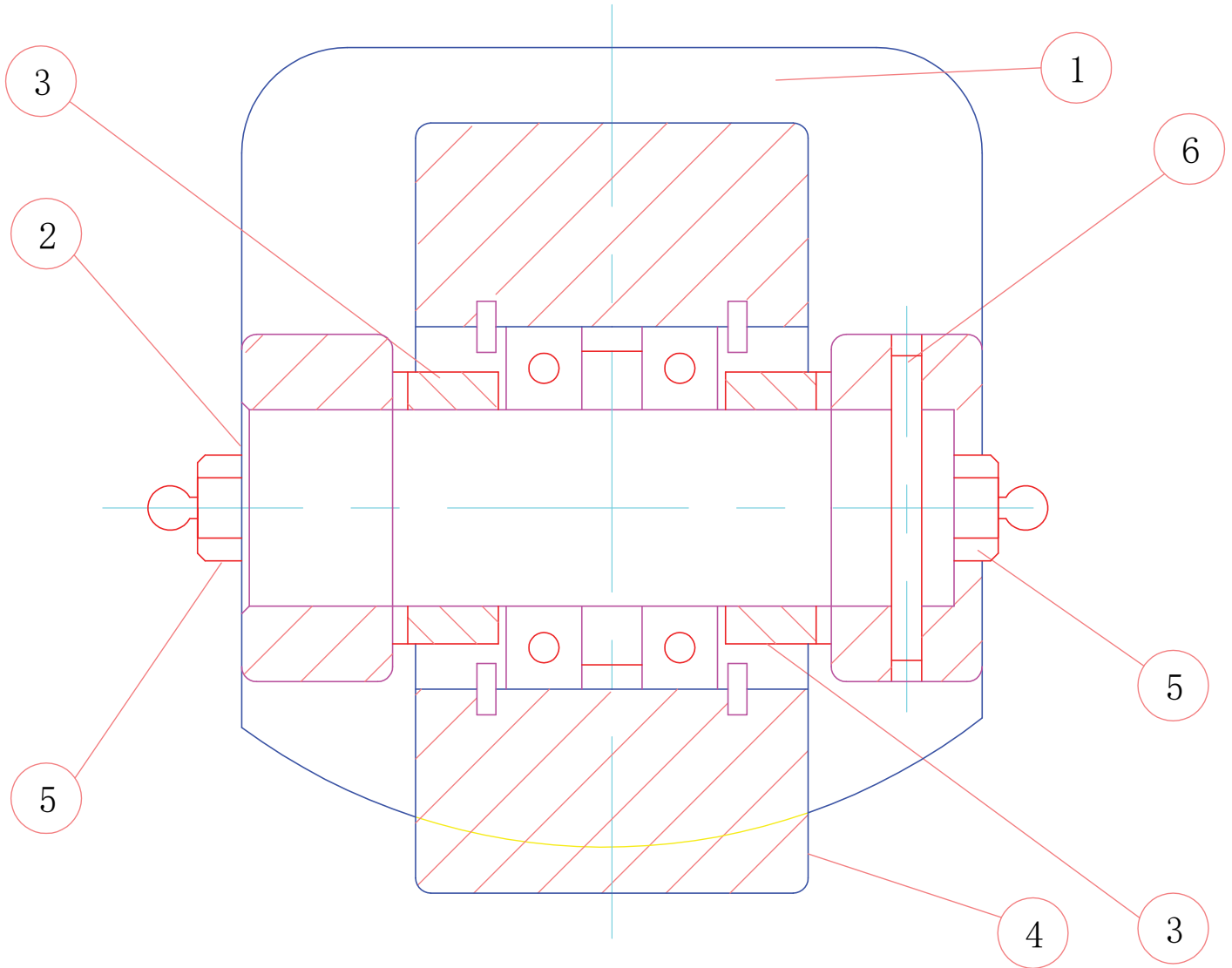
VIEW A-A (REAR)

NOTE A
TORQUE NUTS (DETAIL 27) TO 90-100 INCH-LBS.



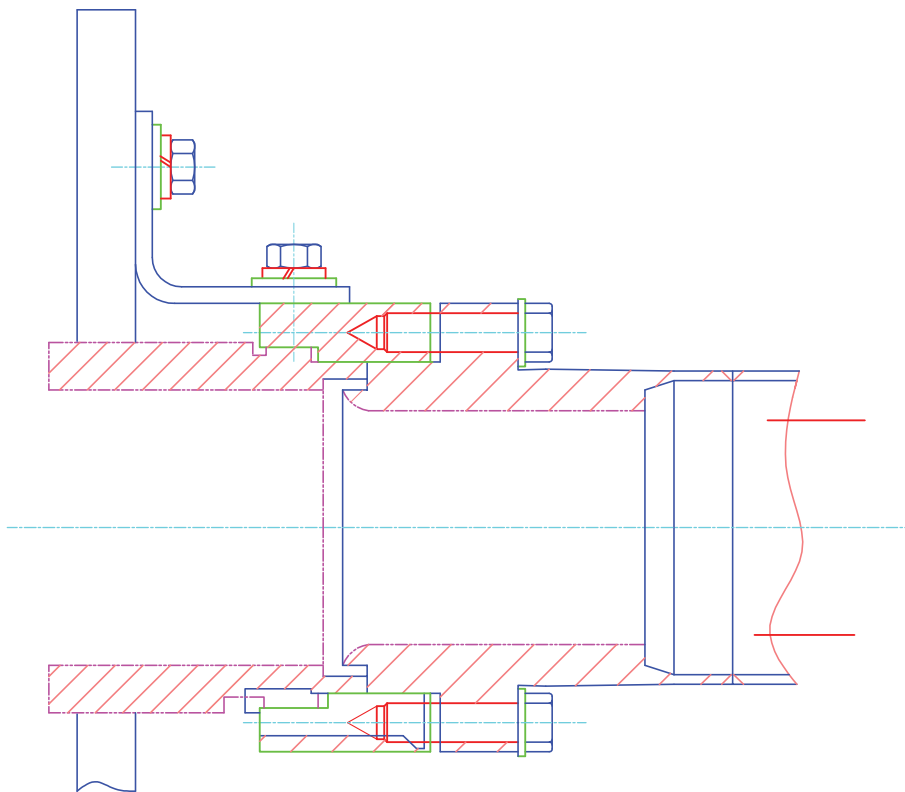
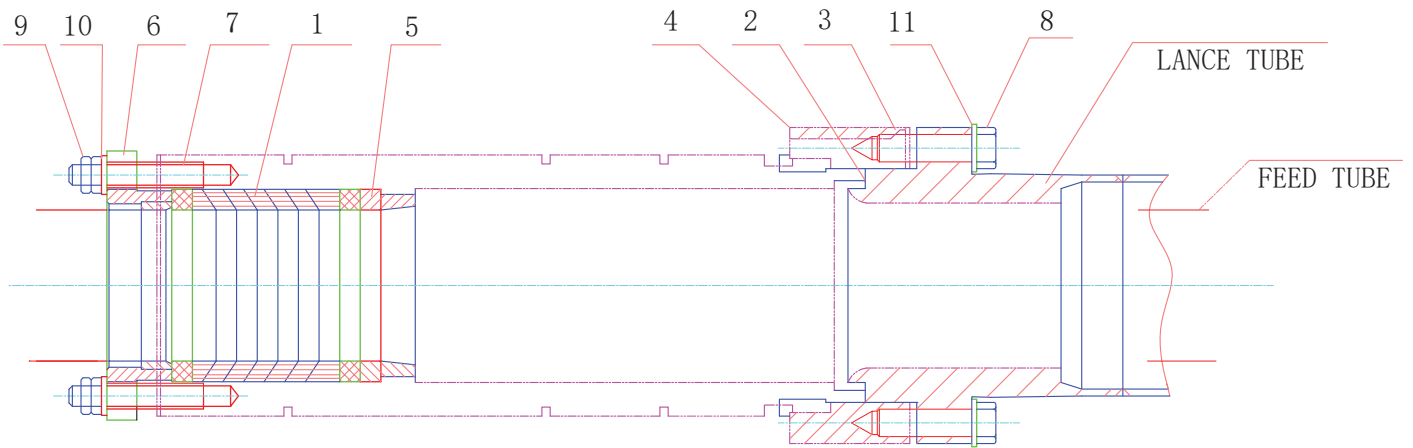
DET	PART NUMBER	DESCRIPTION	QTY
1	347468-000A	10 FOR SUSPENSION ROD LENGTHS	1
2	332825-5025	CABLE ASSEMBLY	1
3	341621-1120	LEAF SPRING	1
4	341621-2128	LEAF SPRING	1
5	341621-3126	LEAF SPRING	1
6	GB67	M6x10 ROUND HEAD MACHINE SCREW	1
7	341625-1126	SPACER TUBE	1
8	GB93	10 SPLIT LOCK WASHER	4
9	E12400-0002	4 CONDUCTOR MALE RECEPTACLE	1
10	341645-1031	TOW BAR SUPPORT BRACKET ASSEMBLY	1
11	341620-1121	SPRING BLOCK	3
12	341614-1129	TOW BAR	1
13	341611-1122	PIVOT PIN	1
14	341612-1121	TOW PIN	1
15	GB91	2.5x30 COTTER PIN (PLATED)	3
16	GB71	M6x12 SET SCREW	1
17	341616-1036	LOOP CONTROL ASSEMBLY	1
18	E12400-0002	ADAPTOR RING	1
19	405053-0114	CABLE CLAMP	2
20	405086-0115	PIPE CLAMP	2
21	GB5783	M6x12 HEX HEAD CAP SCREW	1
22	GB5783	M6x25 HEX HEAD CAP SCREW	2
23	343015-2029	GROUNDING STRAP ASSEMBLY	1
24	GB93	6 SPLIT LOCK WASHER	1
25	GB6170	M6 HEX NUT	7
26	GB5783	M10x25 HEX HEAD CAP SCREW	3
27	GB6170	M10 HEX NUT	4
28	GB5783	M10x30 HEX HEAD CAP SCREW	2
29	GB93	6 SPLIT LOCK WASHER	3
30	GB93	10 SHAKEPROOF INTERNAL LOCK WAHSER	1
31	341608-1127	REACTION WHEEL	1
32	341610-1123	SHOULDER SCREW	1
33	GB71	M6x12 SET SCREW	1
34	GB6170	M10 HEX NUT	3
35	341609-1126	SLIDER BLOCK	1
36	341607-1128	KNOB	1
37	GB5782	M10x40 HEX HEAD CAP SCREW	2
38	E12400-0002	WIRE TERMINAL END	4





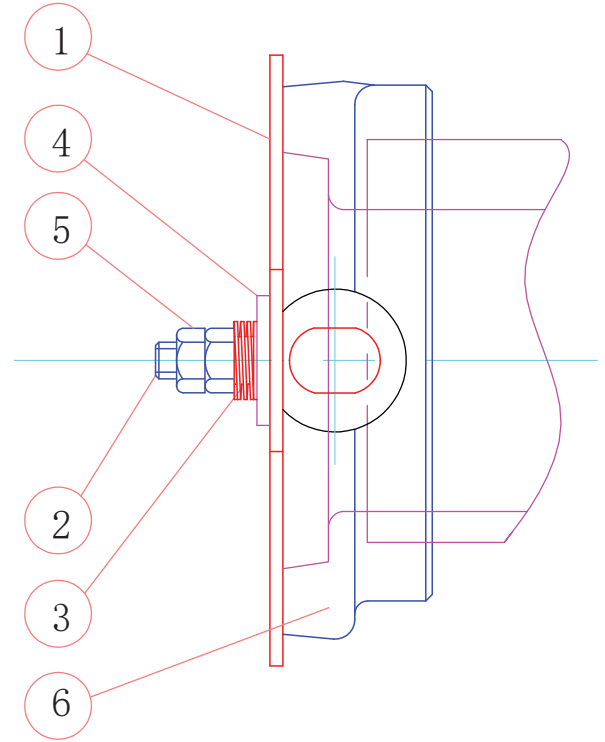
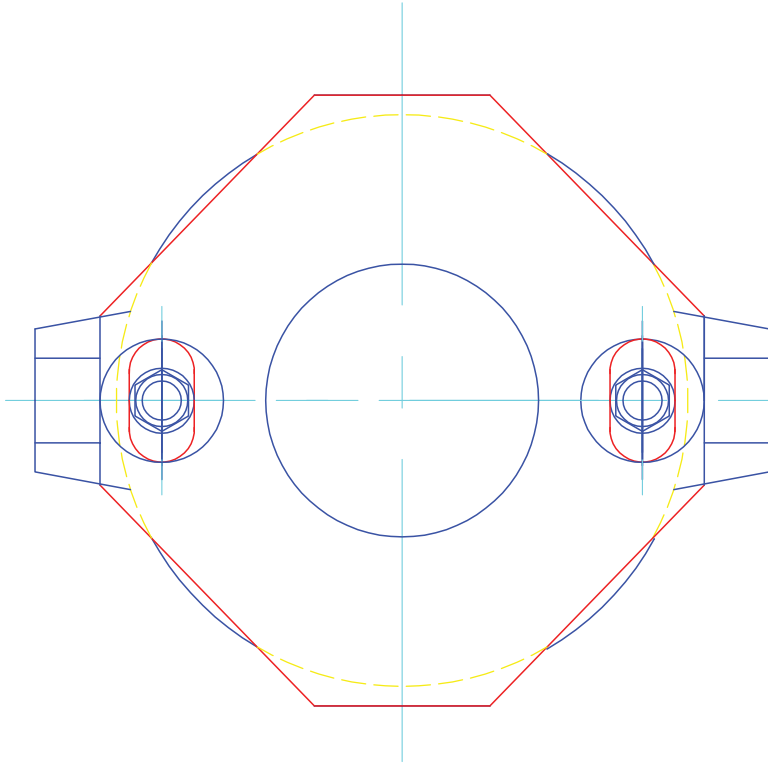
ITEM	PART NO	DESCRIPTION	QTY	REMARK
1	324205-1138	BRACKET ROLLER	1	
2	345794-1130	SHAFT ROLLER	1	
3	324210-2121	SPACER ROLLER	2	
4	323403-1023	ROLLER ASSY	1	
5	GB1152	M10x1 FITTING LUBRICATION	2	
6	GB879	5x45 PIN GROOVE TYPE	1	





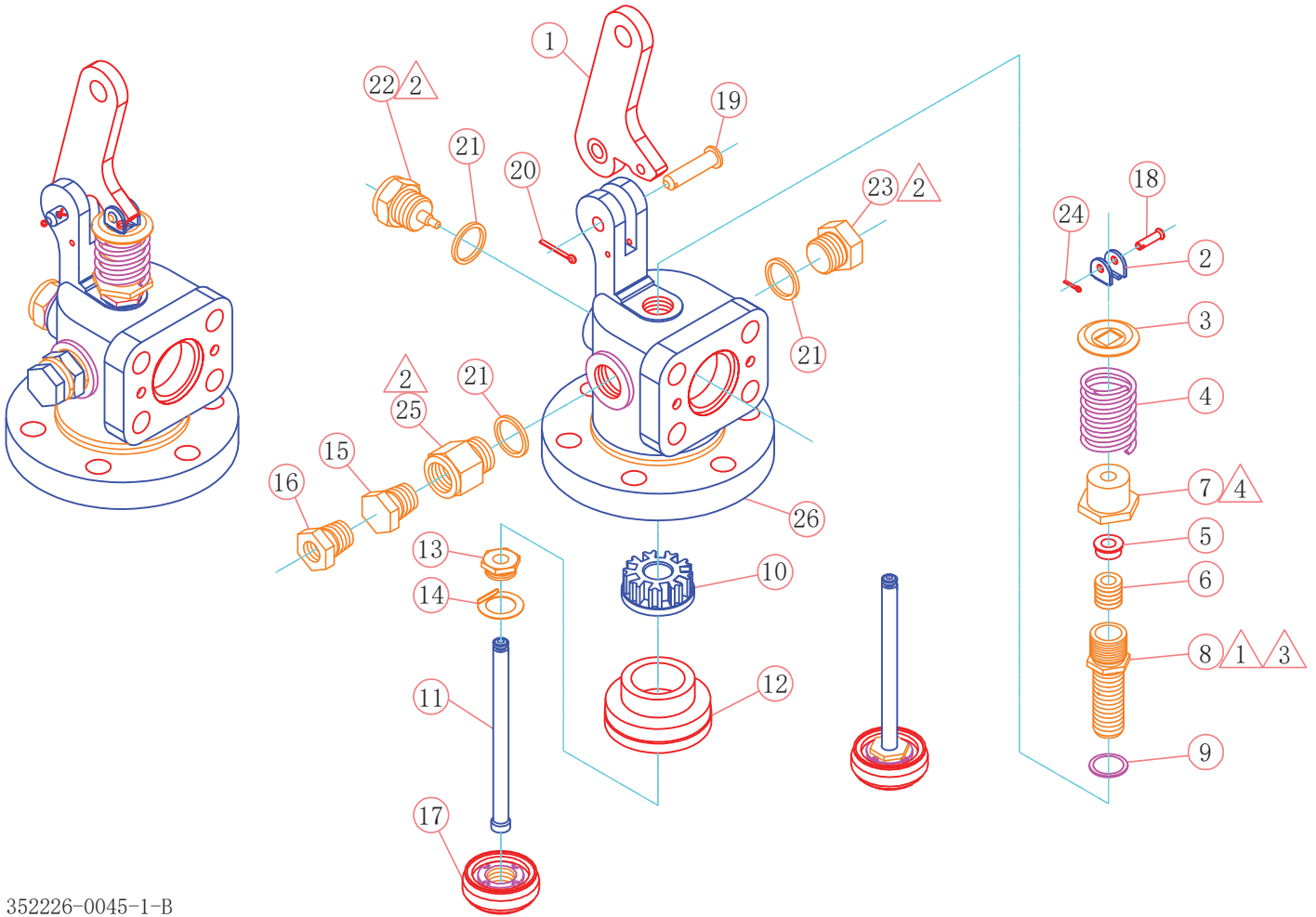
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1	346160-1134	PACKING SET	1
2	305656-0117	GASKET	1
3	304160-0119	KEY	1
4	305654-0127	FLANG HUB	1
5	316893-1023	BUSHING	1
6	316896-1021	PACKING GLAND	1
7	300952-8120	M12x75 STUD	2
8	333771-1125	M14x45 BOLT LANCE FLANGE	6
9	GB6170	M12 NUT	4
10	GB97	12 WASHER	2
11	GB93	14 WASHER	6





ITEM	PART NO	DESCRIPTION	QTY	REMARK
1	333219-2123	SEAL PLATE	1	
2	346858-0034	SEAL PLATE	1	
2	GB899	M12x45 STUD	2	
3	300901-0111	SPRING SEAL PLATE	2	
4	405070-010A	WASHER	2	
5	GB6170	M12 NUT	1	
6	405234-010A	WALLBOX	1	

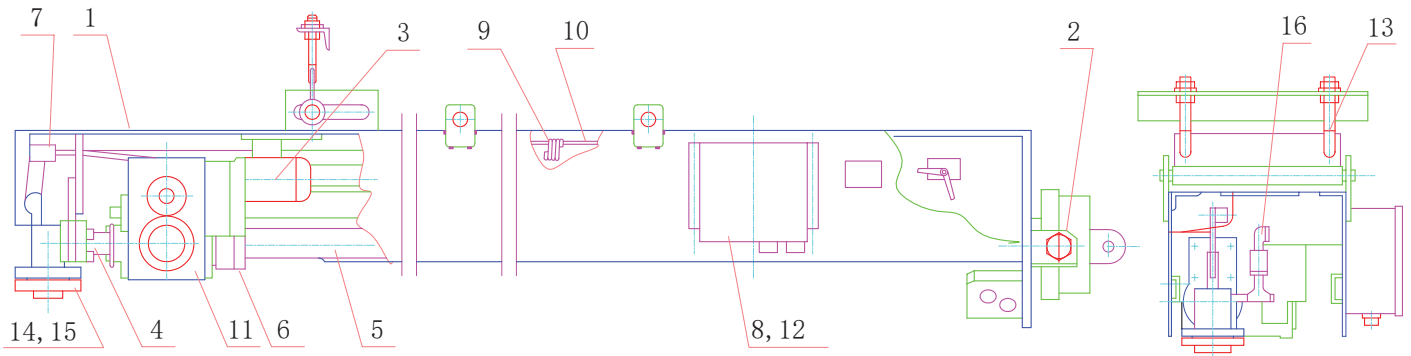




352226-0045-1-B

DET	PART NUMBER	DESCRIPTION	QTY
1	309183-0129	TRIGGER	1
2	301142-0118	VALVE YOKE	1
3	301808-0113	SPRING RETAINER	1
4	302051-0115	SPRING	1
5	302027-0116	PACKING WASHER	1
6	347691-010A	22. 2x12. 7-26 VALVE STEM PACKING	1
7	302032-0119	VALVE STEM PACKING NUT	1
8	342928-1136	VALVE STEM GUIDE	1
9	301167-2114	VALVE STEM GUI DE WASHER	1
10	302028-0115	CONTROL DISC	1
11	344086-1122	VALVE STEM	1
12	309786-1128	FLEXIBLE VALVE SEAT. 600	1
	310666-1121	FLEXIBLE VALVE SEAT. 900	1
13	344954-1121	VALVE STEM RETAINER NUT	1
14	301551-0112	RETAINING WASHER	1
15	350328-010F	HEX HEAD PLUG	1
16	350328-010C	OUTSIDE HEXBUSHING. 6000*	1
17	309785-1129	VALVE DISC. 600*	1
	310665-1122	VALVE DISC. 900*	1
18	301235-0116	VALVE YOKE PIN	1
19	301158-0119	TRIGGER PIN	1
20	GB91	3x30 COTTER PIN	1
21	405019-0117	38/31-2.4 GASKET. (COPPER)	3
22	350328-010A	LOCKPIN PLUG	2
23	350328-010F	ADAPTER PLUG	1
24	GB91	2. 5x16 COTTER PIN	1
25	350328-010D	NPT ADAPTER	1
26	PER/ORDER	VALVE BODY	/
352226-0045-1-B			





ITEM	PART NO	DESCRIPTION	QTY
1	349690-0048	BEAM ASSEMBLY* RH/LH 6MMTHICK CARBON STEEL	1
2	324207-1029	FRONT SUPPORT ASSEMBLY* RIGID OR PIVOT	1
3	405001-0026	MOTORY YIK90S-4 1.1/1.5KW Q R 50Hz 380V	1
4	310635-1137	FEED TUBE, O 60X4	1
5	347284-0044	LANCE AND NOZZLE ASSEMBLY	1
6	351112-0044	LANCE JOINT AND PACKING ASSEMBLY	1
7	347319-0043	TURN-ON ASSY* S-600 OR S-900	1
8	347377-0042	CONTROL ASSY	1
9	347354-0049	EXPANDA CABLE ASSY	1
10	405588-0126	SUSPENSION ROD ASSY	1
11	350206-0043	CARRIAGE ASSY	1
12	347347-0049	CONTROL BOX ASSY	1
13	351561-0040	BLOWER SUPPORT ASS'Y	1
14	405362-0714	COMPANION FLANGE	1
15	405314-0127	COMPANION FLANGE* HARDWARE	1
16	331666-1044	SCAVENGING AIR AND PURGE ASSY	1





INDUSTRIAL BOILERS AMERICA

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