

INGROUND LIFT



SABTECH

Saudi Basic Technology Co. Ltd.

OPERATION

AND

MAINTENANCE

MANUAL

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Note : Due to continuous product development, we reserve the right to make modifications in specifications without notice.
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INTRODUCTION

This Manual is designed to help you familiarize thoroughly on how to operate your Inground Lift to your best advantage. It gives you a detailed description of all the assemblies, their functions and service procedures. Detailed drawings of such assemblies are given in the later part of this manual along with their parts list to serve as your reference in ordering spare parts and servicing. This machine is designed for its performance, reliability and minimum maintenance.

All the materials are of the highest quality with stringent quality control checks. From supply of raw materials and through every manufacturing stage up to the final testing and inspection. Under normal working conditions, excellent service can be guaranteed for several years.



TECHNICAL INFORMATION

Model No.	SAB-IG-5	SAB-IG-8	SAB-IG-10	SAB-IG-15	SAB-IG-25	SAB-IG-35
Plunger Diameter	270mmØ	320mmØ	270mmØ	320mmØ	400mmØ	400mmØ
Capacity	5 Tons (5000 kgs.)	8 Tons (8000 kgs.)	10 Tons (10000 kgs.)	15 Tons (15000 kgs.)	25 Tons (25000 kgs.)	35 Tons (35000 kgs.)
Max. Lifting Height	1600mm	1600mm	1600mm	1600mm	1600mm	1600mm
Operating Pressure	12-14 Bar	12-14 Bar	12-14 Bar	12-14 Bar	12-14 Bar	12-14 Bar
Oil Filling Capacity	220 liters	265 liters	220 liters x 2 Cylinders	265 liters x 2 Cylinders	403 liters x 2 Cylinders	403 liters x 3 Cylinders
Overall Length (Lifting Position)	4155mm	4155mm	4155mm	4155mm	4155mm	4155mm

INSTALLATION INSTRUCTION ***(BEFORE START-UP OPERATION)***

1. FOUNDATION :

The foundation pit should be constructed as per the dimensions given in the drawing (See Table 1 below).

Table No. 1

Drawing No.	Model No.	Capacity
0004-4-IG5T-01	SAB-IG-5	5 Tons
0002-4-IG8T-01	SAB-IG-8	8 Tons
0006-4-IG10T-01	SAB-IG-10	10 Tons
0008-4-IG15T-01	SAB-IG-15	15 Tons
0203-4-IG25T-01	SAB-IG-25	25 Tons
0204-4-IG35T-01	SAB-IG-35	35 Tons

The space marked by dots and triangles is concrete and the space between these concrete parts should be filled with dry sand, fine gravel and clay or earth. Do not wet it. Do not fill the gap with coarse gravel, rocks or rubbish.

2. CONSTRUCTION OF THE PIT :

- 2.a. After excavating the pit for the Inground Lift cylinder and the channel for pipelines, construct the space for the bottom footing as shown in the drawing, 1500 x 1000 x 400mm. (Refer to Table No. 1).
- 2.b. Before pouring concrete, the bottom floor should be rammed well. Make the base concrete block on this well-rammed floor by pouring the concrete mixture from top, until its top is at the depth, as shown in the Table No. 2, from the proposed floor level.

Table No. 2

Drawing No.	Model No.	Depth
0004-4-IG5T-01	SAB-IG-5	3000 mm
0002-4-IG8T-01	SAB-IG-8	3000 mm
0006-4-IG10T-01	SAB-IG-10	3000 mm
0008-4-IG15T-01	SAB-IG-15	3000 mm
0203-4-IG25T-01	SAB-IG-25	3238 mm
0204-4-IG35T-01	SAB-IG-35	3238 mm

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- 2.c. Before the concrete dries, make a small cavity at the center of the block for the bottom dish. This cylinder should be lifted by means of the chain pulley block. Apply grease to the bottom of the cylinder before lowering.
- 2.d. After greasing, lower the cylinder on the wet concrete by means of a tripod support and chain pulley block. The Inground Lift should not be allowed to slide in the pit. If the paint gets damaged a coating of waterproof paint should be applied.
- 2.e. Pour refilling concrete around the bottom of the Inground Lift cylinder gradually. The top level of the concrete should be at a depth, as shown in Table No. 3, from the proposed floor level.

Table No. 3

Drawing No.	Model No.	Depth
0004-4-IG5T-01	SAB-IG-5	2650 mm
0002-4-IG8T-01	SAB-IG-8	2670 mm
0006-4-IG10T-01	SAB-IG-10	2670 mm
0008-4-IG15T-01	SAB-IG-15	2690 mm
0203-4-IG25T-01	SAB-IG-25	2888 mm
0204-4-IG35T-01	SAB-IG-35	2888 mm

- 2.f. Adjust the cylinder (rotate if necessary) until the air inlet coupling comes to the required position (the position of this coupling will depend on the location of the air control valve).

3. LEVELLING :

- 3.a. Levelling of the Inground Lift can be done even before the bottom concrete sets by using spirit level or by mason's plumb. If the spirit level is not available, the plunger may be pulled out by means of the head plate assembly, by about 500mm (typ. to all capacities) and check the level at two places at right angles.
- 3.b. If the spirit level is available remove the top head plate assembly and pull the plunger holding ring. Here also the cylinder should be moved as required until the cylinder is leveled in both the directions.
- 3.c. On the leveled position, support the Inground Lift cylinder securely in position by substantial bracing for , as long as it take for the concrete to harden, so as to bear the load.

3.d. After the bottom concrete are set, the pit should be filled with sand, fine gravel and clay or earth and rammed well on all the sides, up to 900mm (typ. to all capacities) from the floor level. It should be noted that while ramming, the level of the plunger should be maintained by checking frequently with the spirit level. It is better to oil plunger when it is pulled out for leveling. Take care not to damage the plunger, dust particles should not come into contact with the plunger.

4. FINAL CONCRETING :

Prior to final concreting, the drain should be connected to the outside drainage. The top cavity for lifting ramp has been given a slope towards the center of the lift so that all water should comes directly to the drain hole. Also, the lifting ramp are at the bottom most position they should touch the base at the extreme ends only. This will prevent the weight of the lifting ramp resting on the cylinder. After final concreting is set, the cylinder can be filled with oil. Only the recommended grades of oil should be used

which is Hydraulic Oil VG-68 (the concrete will require one-week time for setting).

5. FILLING THE CYLINDER WITH OIL

- 5.a. Before allowing the oil into the cylinder, the lift should be thoroughly vented. For this purpose, an air vent is provided at the top of the cylinder.
- 5.b. Air vent bolt should be loosen while filling the cylinder with oil, to remove the air trapped into the cylinder.
- 5.c. Filling of oil should be continued until the oil reaches up to 50 cm by measuring it at the top of the cylinder by a dipstick. This is very important.

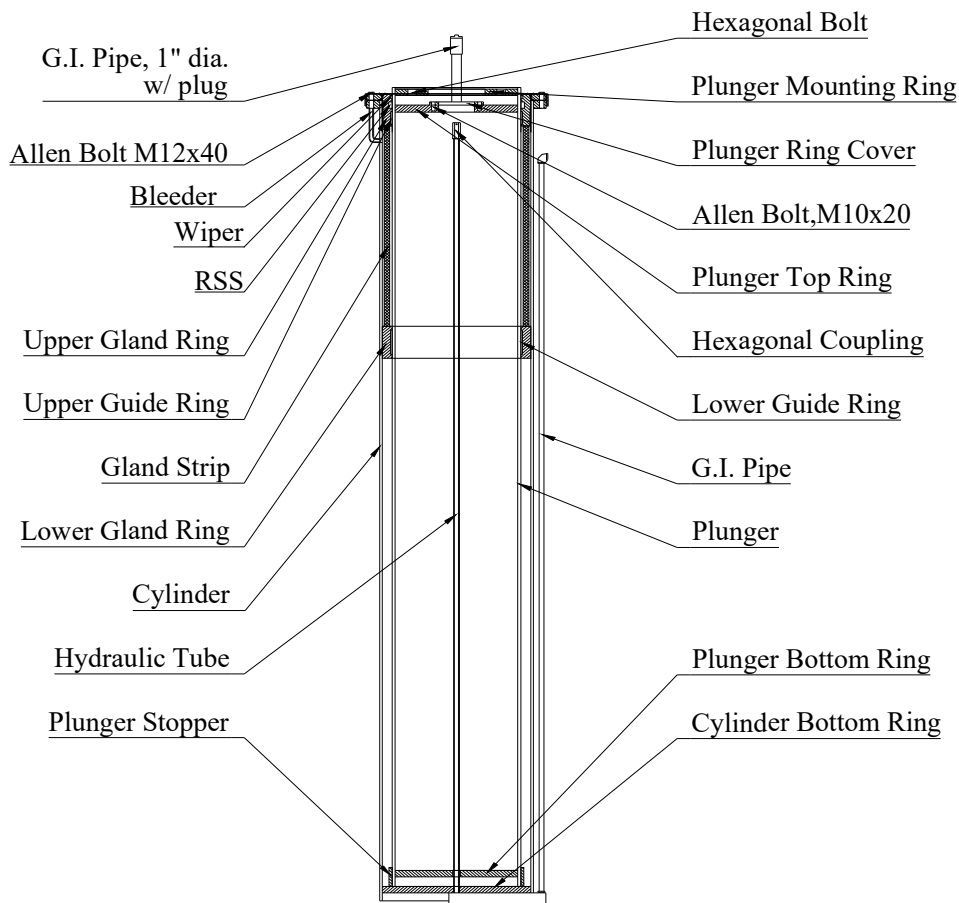
OPERATION AND MAINTENANCE

1. Lift and lower the lifting ramp several times without load by operating air control valve. If the operation is jerky it shows that venting is poor – vent once again.
2. The wiper ring at the top of the cylinder prevents any dust going into the Inground Lift while the plunger is lowered, thereby increasing the life of both the plunger and the packing.
3. It is always advisable not to lift the plunger to the maximum height. Every time when the plunger is lowered, it should be thoroughly cleaned.
4. Always attend to any signs of minor irregularities immediately, if neglected they may become worse.

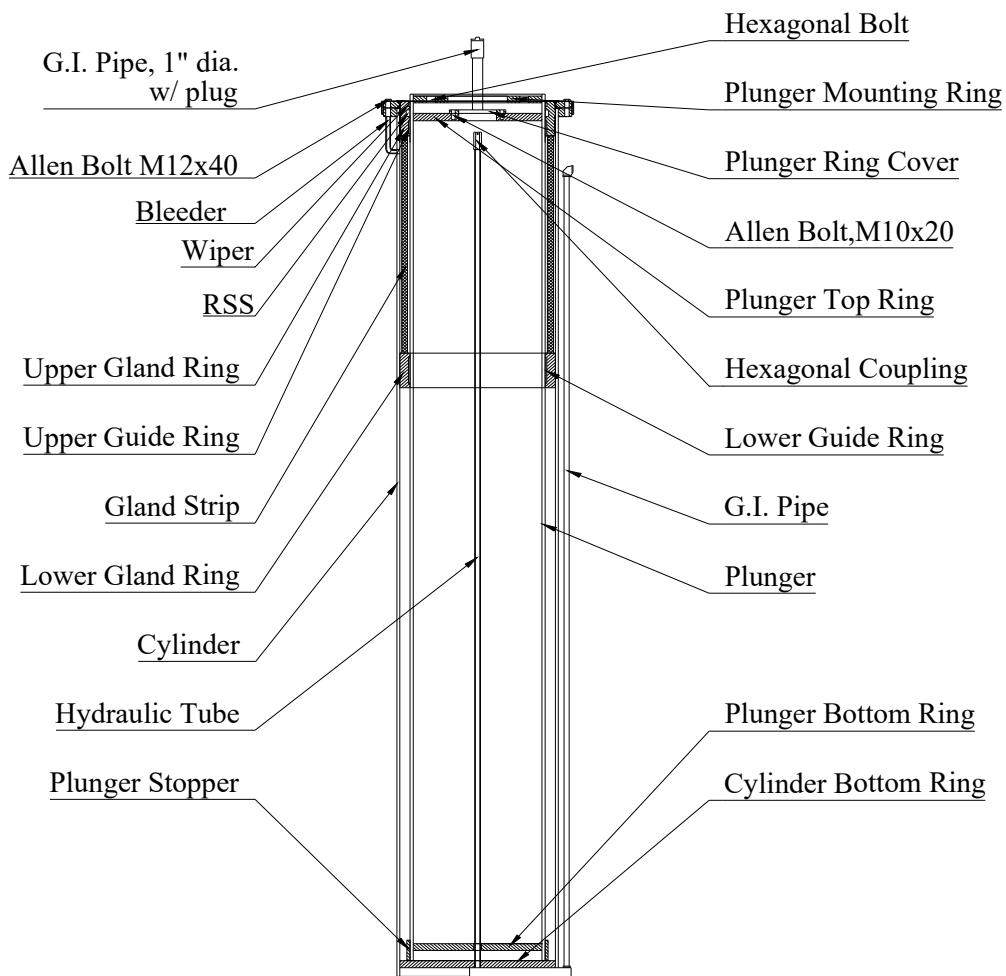
Note : This manual should be kept throughout the life of the equipment as a reference for the procurement of correct spare parts.

PARTS DESCRIPTION

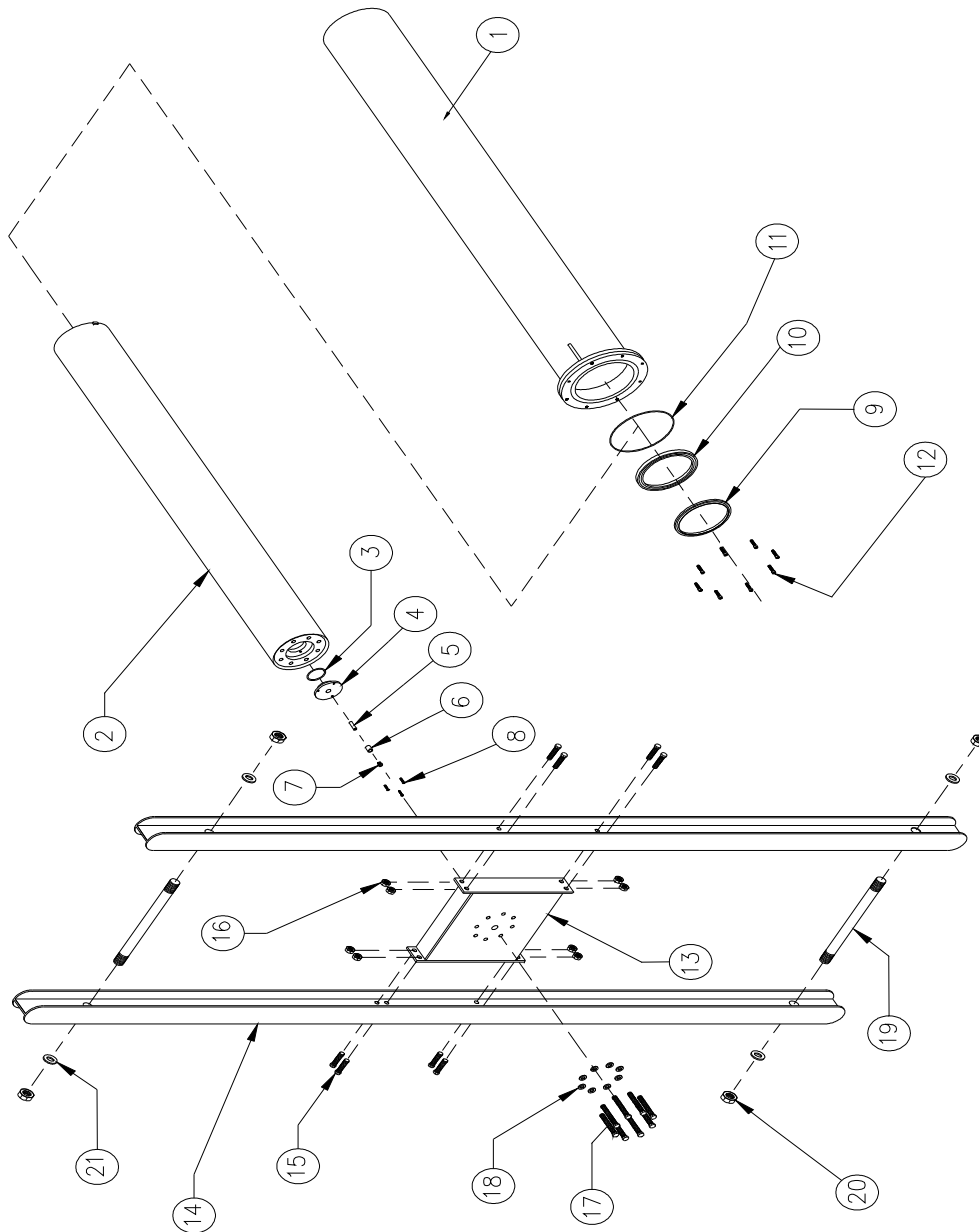
Drawing No. 003-1-IG5T-01 (Typ. to Inground Lift, 10T)



Drawing No. 003-1-IG8T-01 (Typ. to Inground Lift, 15T)



EXPLODED VIEW



SPARE PARTS LIST

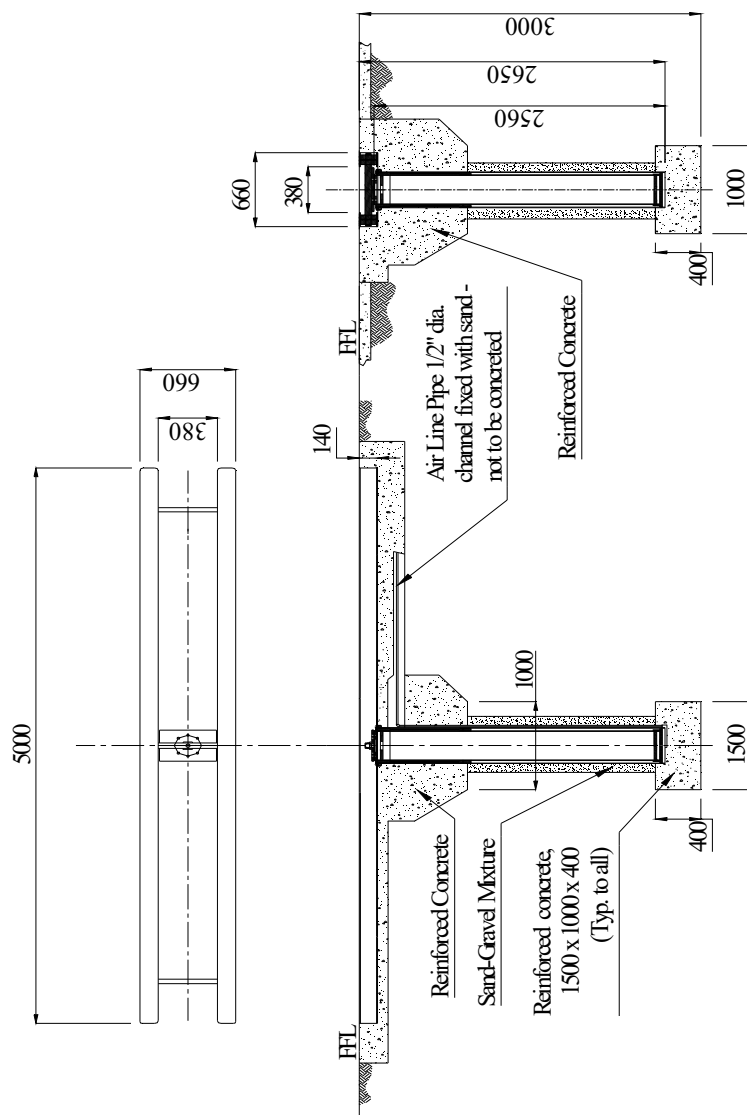
ITEM NO.	SPARE PART NO.	DESCRIPTION	QTY
1	1-904-002-0042	Tube	1
	1-904-005-0005	Hydraulic Tube, Seamless	1
	1-903-003-0005	Hexagonal Coupling	1
	1-900-004-0034	G.I. Elbow	1
	1-900-008-0006	G.I. Plug	1
	1-900-008-0008	Blanking Plug	1
2	1-904-001-0035	Piston Tube	1
3	2-002-001-0294	*O-ring	1
4	1-906-001-0011	Plunger Ring Cover	1
5	1-900-023-0001	Nipple	1
6	1-900-009-0012	Coupling	1
7	1-900-008-0007	G.I. Plug	1
8	1-905-003-0009	Allen Bolt M10	3
	2-002-003-0076	Seal Kit, <i>complete with the following :</i>	1
9		*WRM	
10		*RSS	
11		*O-ring	
12	1-905-003-0014	Allen Bolt M12	8
13	1-906-001-0006	Head Plate Assembly	1
14	1-906-005-0002	H-Beam	2
15	1-905-002-0017	Hexagonal Bolt M20 x 50	8
16	1-905-005-0005	Nut	8
17	1-905-002-0013	Hexagonal Bolt M22 x 150	8
18	1-905-006-0020	Washer	8
19	1-903-002-0004	Steel Rod	2
20	1-905-005-0015	Nut	4
21	1-905-006-0021	Washer	4

* See Seal Kit (for ordering)

DRAWINGS

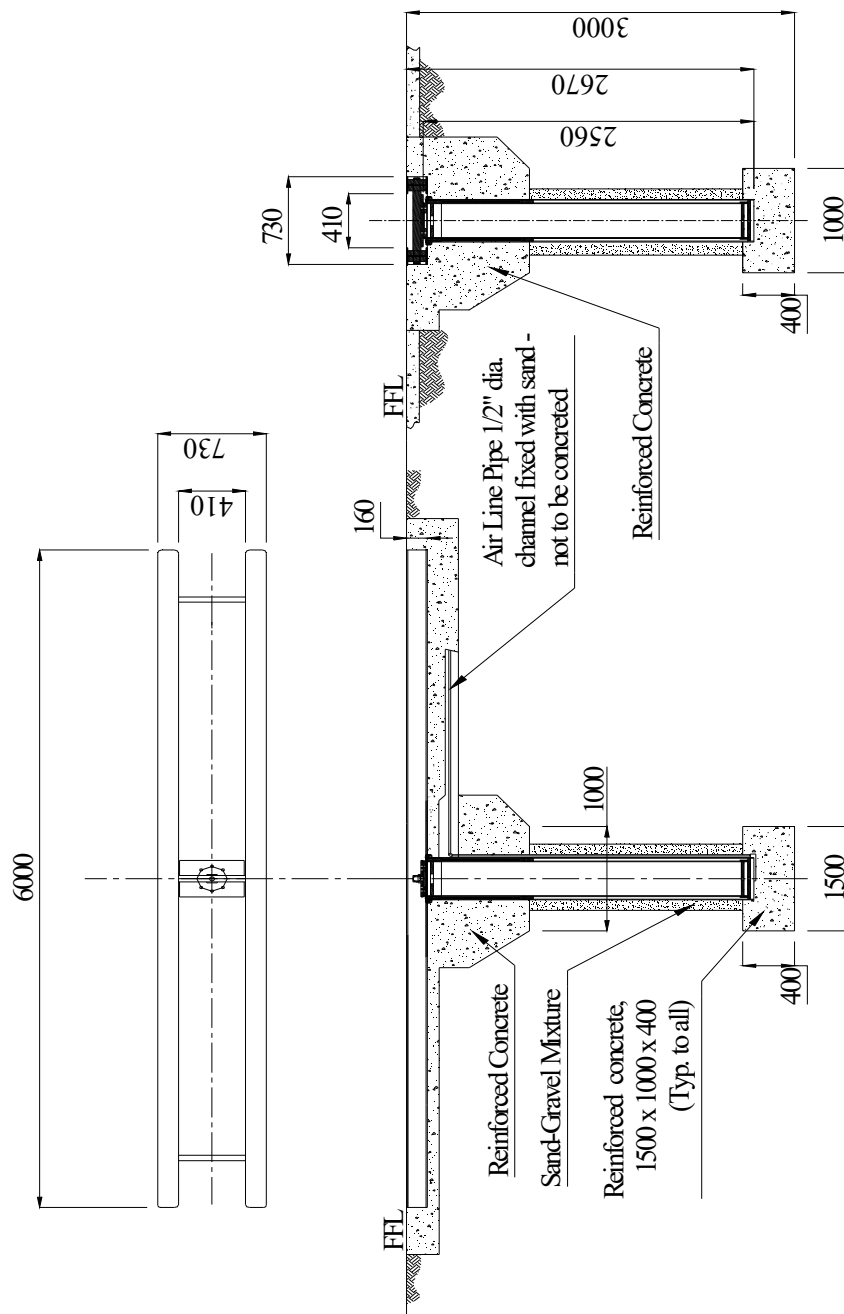
FOUNDATION DRAWING

Drawing No. 004-4-IG5T-01

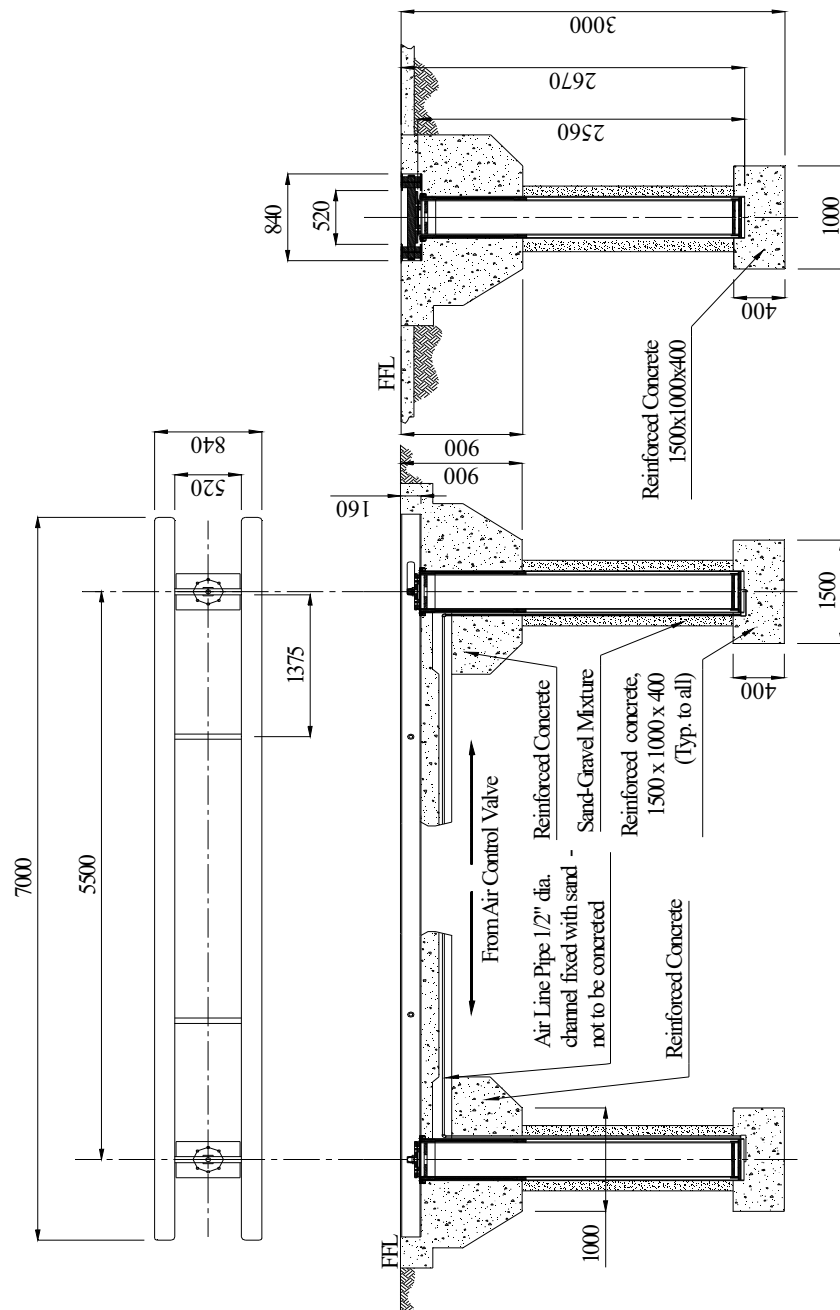




Drawing No. 002-4-IG8T-01



Drawing No. 006-4-IG10T-01





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Technical drawing of a manhole structure showing a plan view and a cross-section view.

Plan View Dimensions:

- Overall width: 7000
- Overall length: 5500
- Internal width: 1000
- Internal length: 1375
- Offset from centerline: 600

Cross-Section View Dimensions:

- Top width: 3238
- Top offset: 2888
- Top width (inner): 2735
- Top offset (inner): 400
- Top width (inner): 900
- Top offset (inner): 900
- Top width (inner): 200
- Top offset (inner): 1000
- Top width (inner): 600
- Top offset (inner): 1000
- Top width (inner): 1500

Labels and Notes:

- Reinforced Concrete 1500x1000x400
- Reinforced concrete, 1500 x 1000 x 400 (Typ. to all)
- Sand-Gravel Mixture
- Air Line Pipe 1/2" dia. channel fixed with sand - not to be concreted
- From Air Control Valve
- Reinforced Concrete
- FFL (Finished Floor Level)

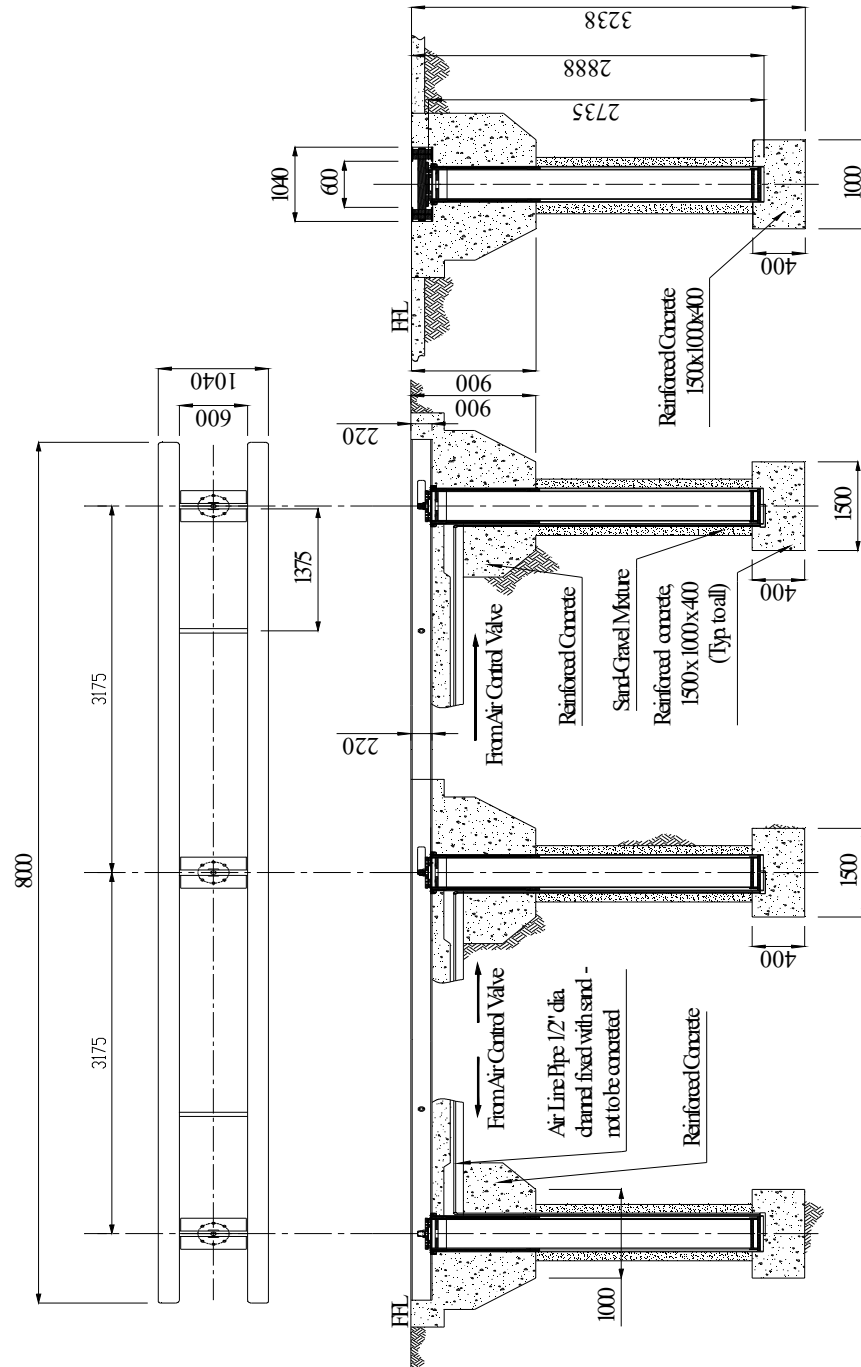
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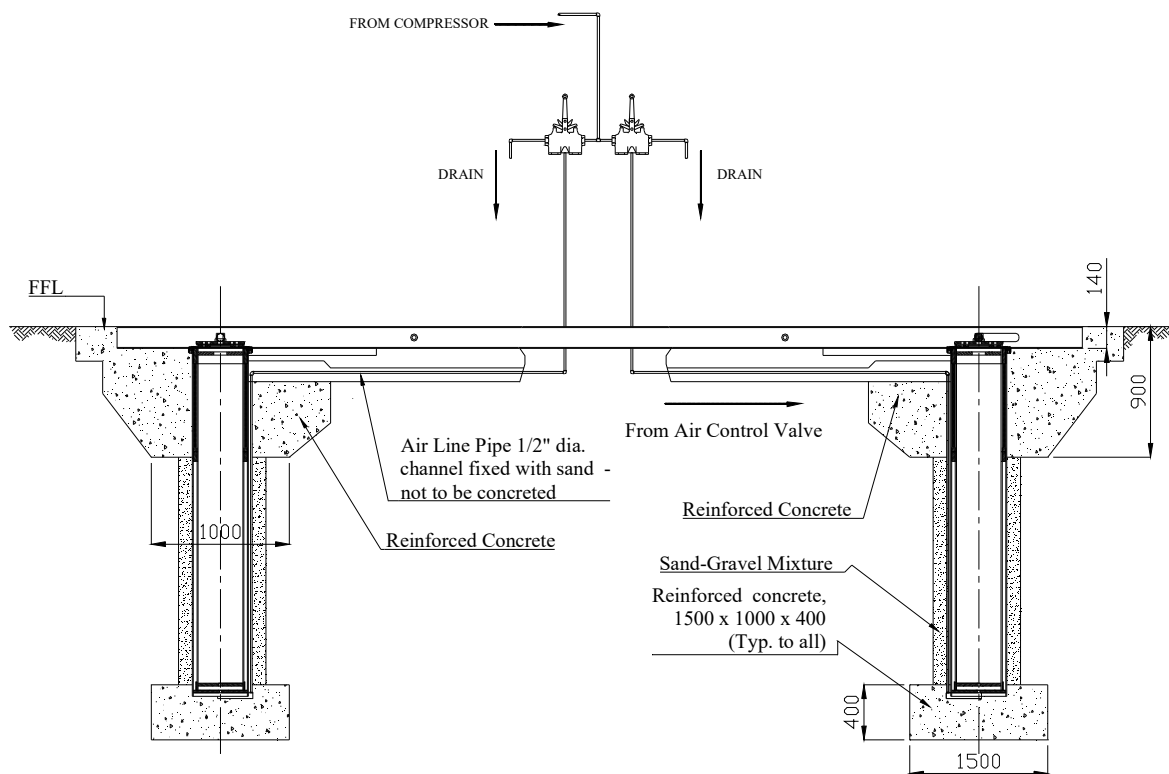
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Drawing No. 0204-4-IG35T-01



AIR LINE INSTALLATION DIAGRAM

Drawing No. 009-5-IG-01 (for 10T & 15T)



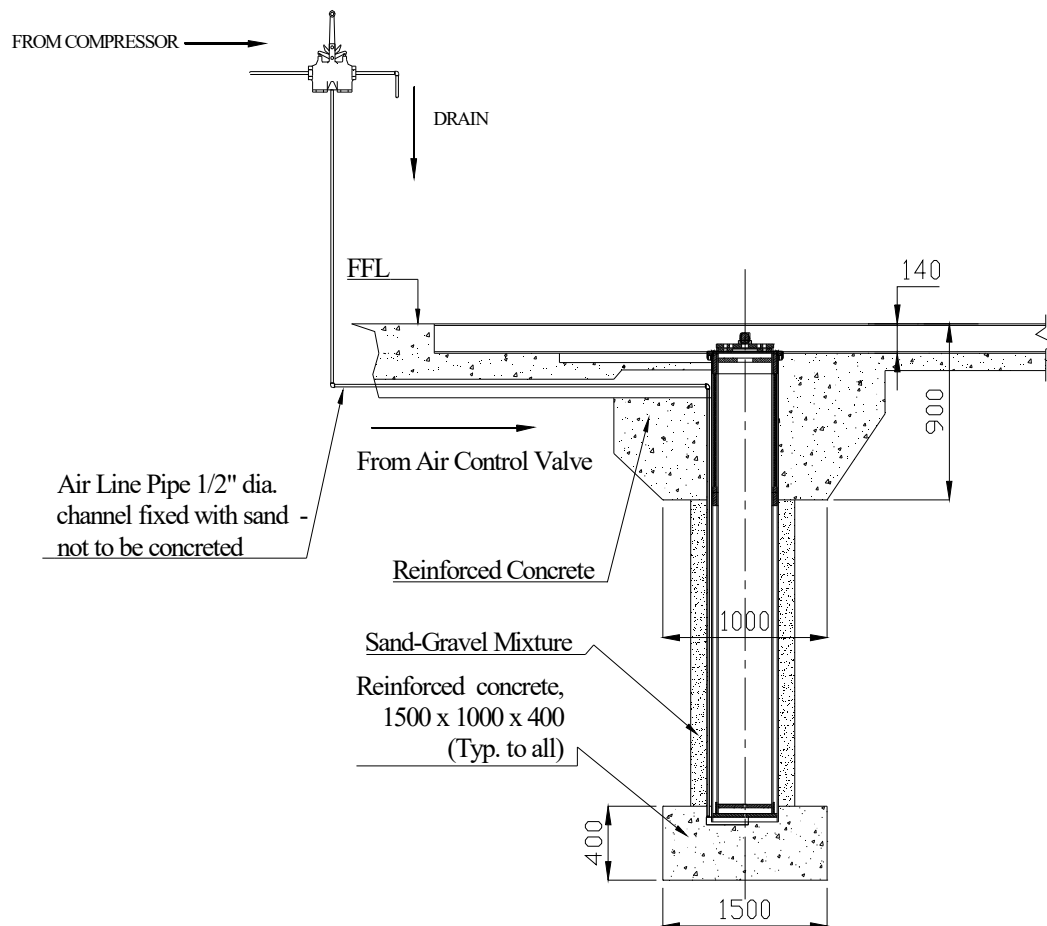
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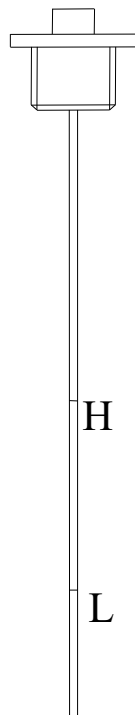
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Drawing No. 010-5-IG-01 (for 5T & 8T)

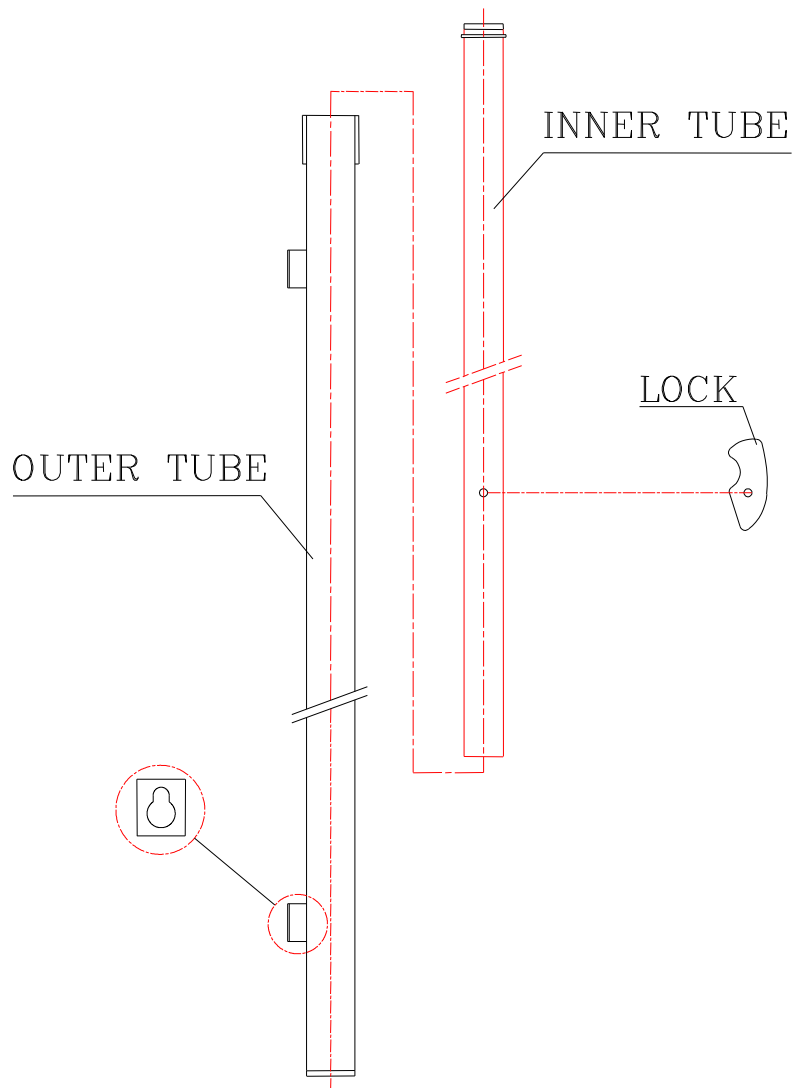


OIL LEVEL GAUGE



Note: - “H” Indicates the hire level gauge of oil
 “L” Indicates the lower level gauge of oil

ANTI ROTATING SYSTEM



SAB TECH In ground lifters has been designed as anti-rotating. The drawing of anti-rotator is mentioned as above.