

Torpedo Ladle Car Introduction

Torpedo Ladle Car - Type

Cylinder Type

- ◆ AC/DC differential speed planetary gear box for open type transmission;
- ◆ Full suspension flexible support three ring reducer driving;
- ◆ Max. capacity 380 ton.

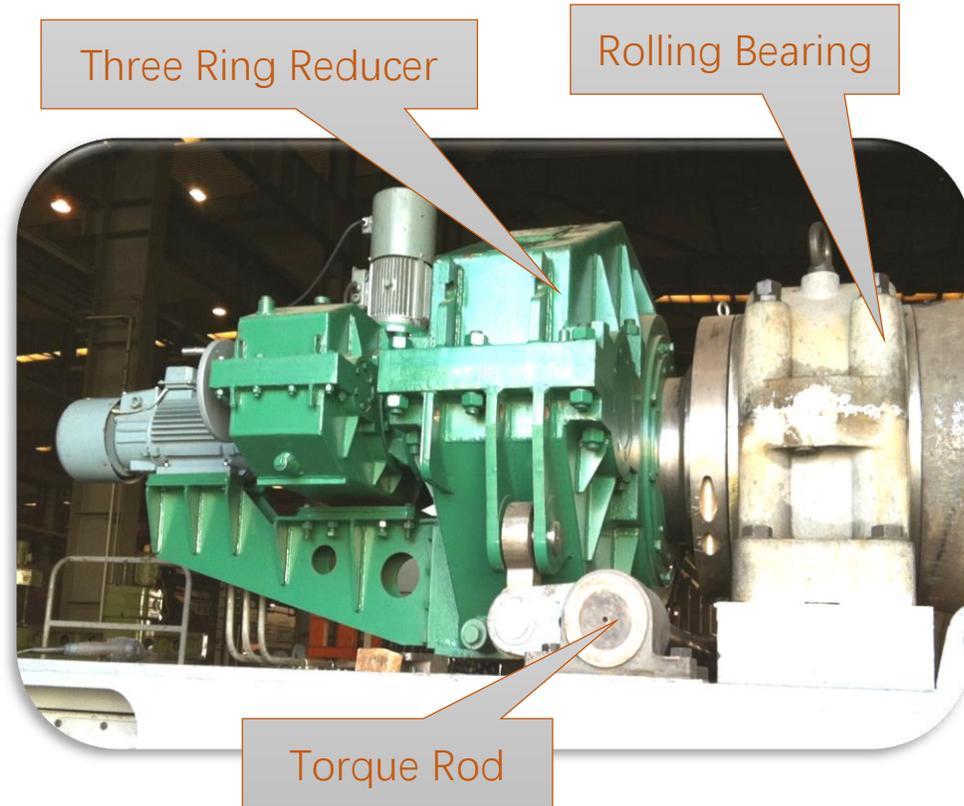


Torpedo Type

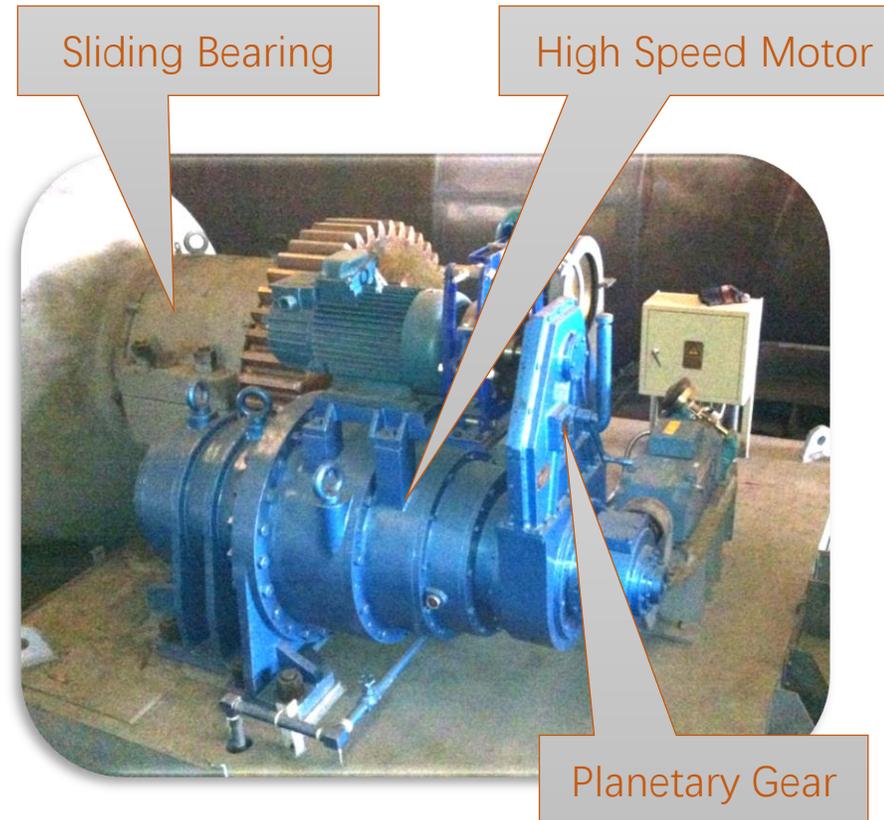
- ◆ Teeth chain or roller chain drive (from gear box to vessel);
- ◆ Max. capacity 380 ton.



Torpedo Ladle Car - Structure



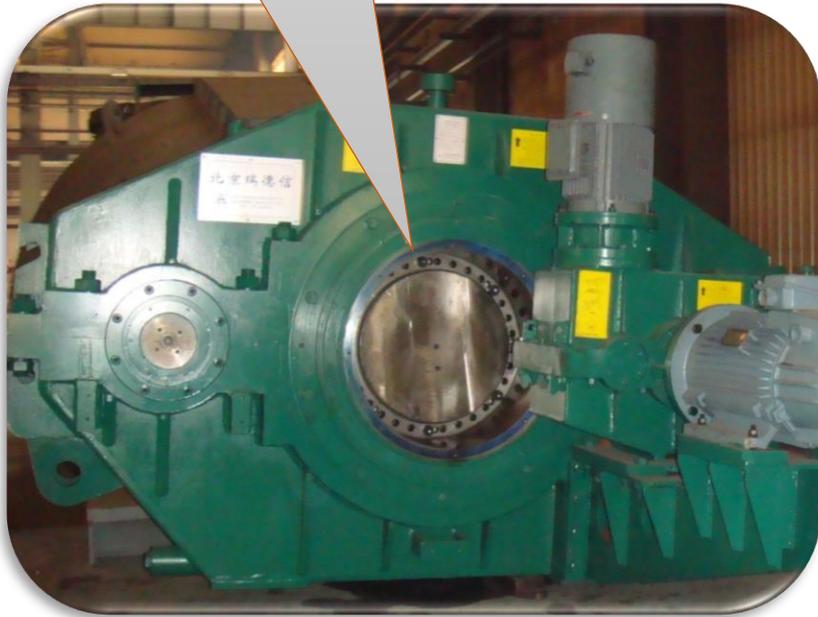
Full suspension flexible support
three ring reducer driving



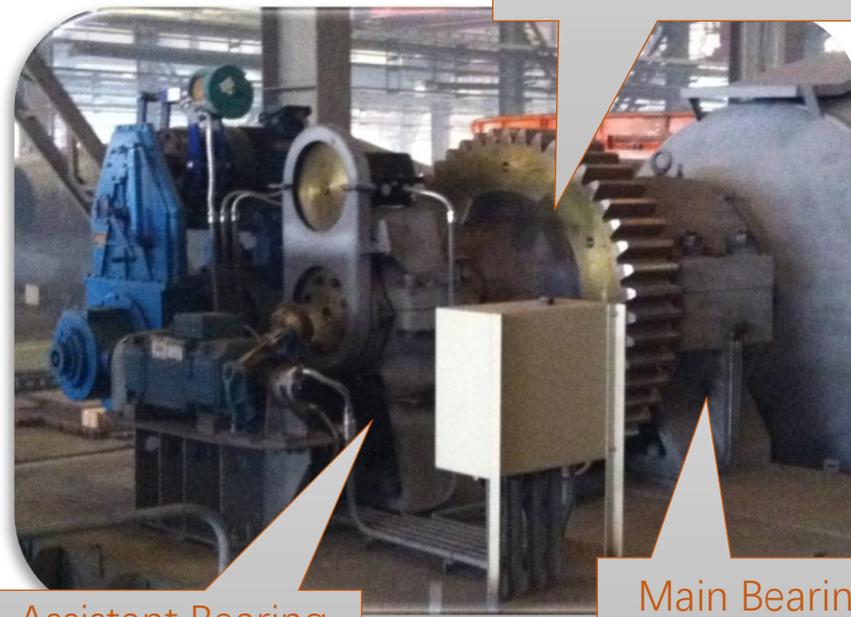
Open type gear driving

Torpedo Ladle Car - Structure

Shaft Hub Connection



Tangential Key Connection



Assistant Bearing Seat

Main Bearing Seat

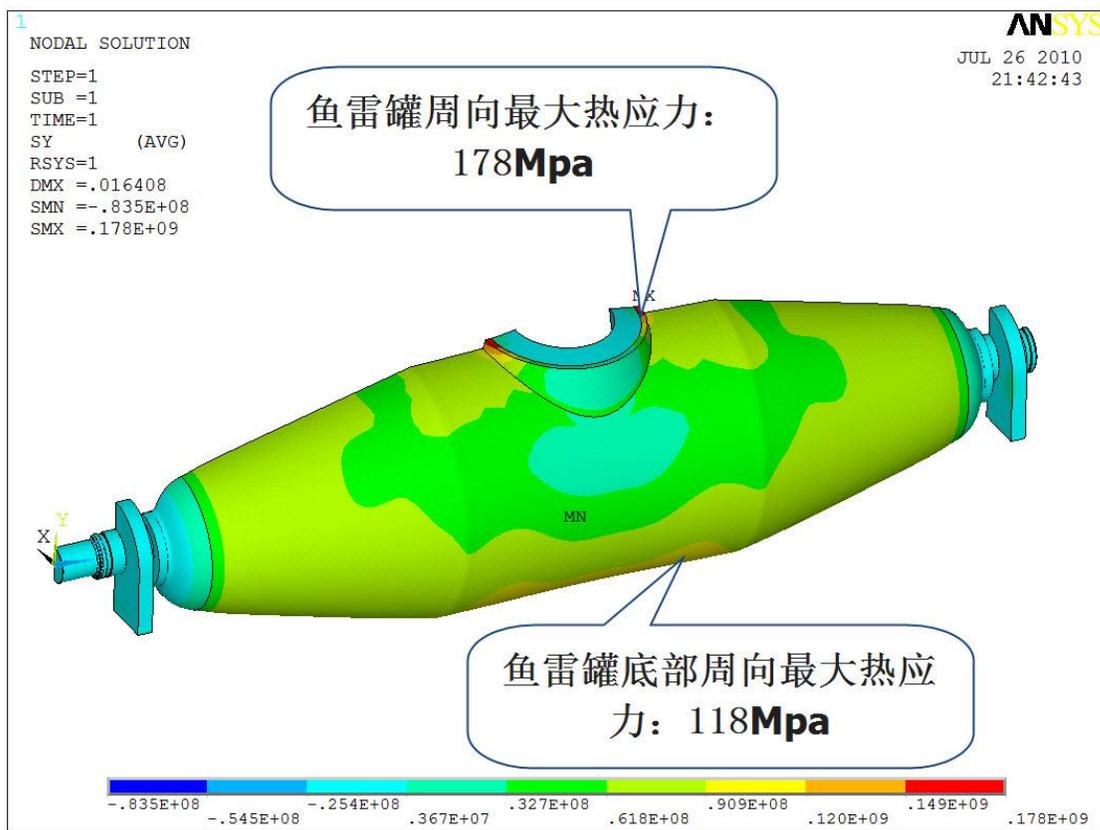
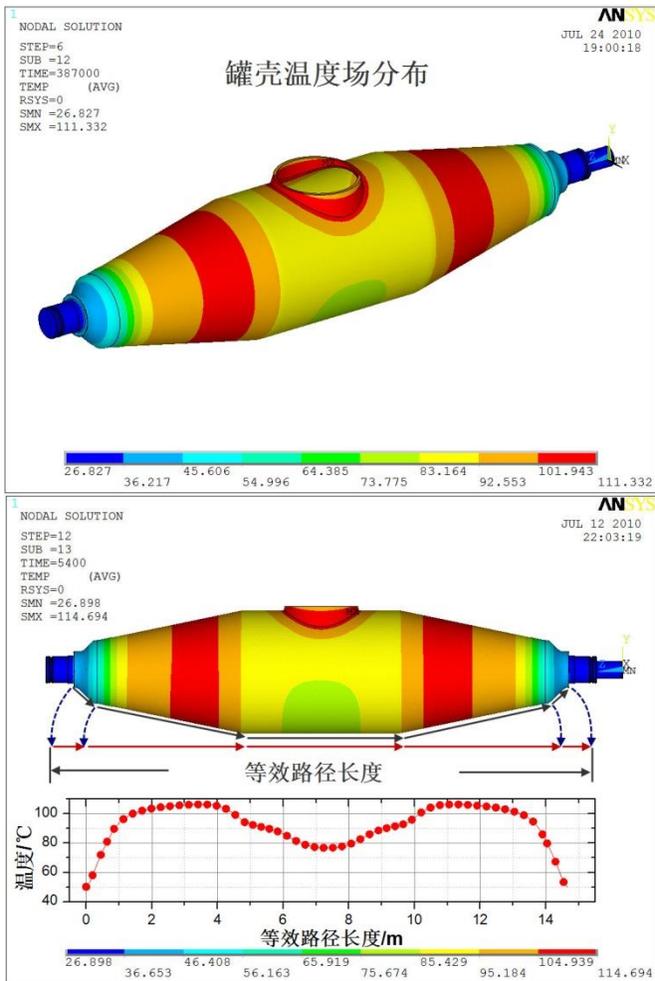
Full suspension flexible support
three ring reducer driving

Open type gear driving

Torpedo Ladle Car - **Quality Control**

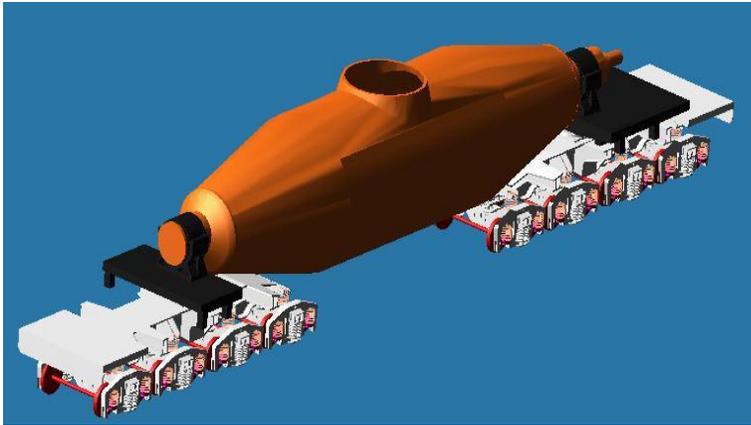
- **Design**: 3D Design. Finite element force structure analysis is carried out for main component. Dynamic analysis is carried out for assembled vehicle.
- **Material**: High quality steel plate passed flaw detection. Numerical control cutting of material.
- **Welding**: Welder is qualified with certificate. Special tooling is used for assembly. Stress relieving after welding, and UT, MT, RT inspection are applied for welding line.
- **Test**: Both zero loading and loading tests are carried out.

Torpedo Ladle Car - Quality Control

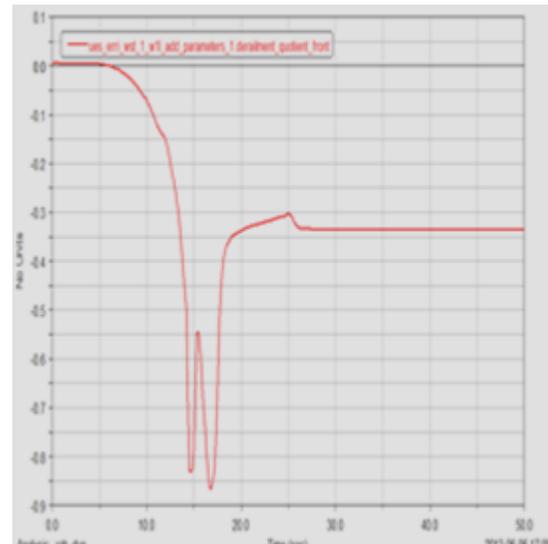
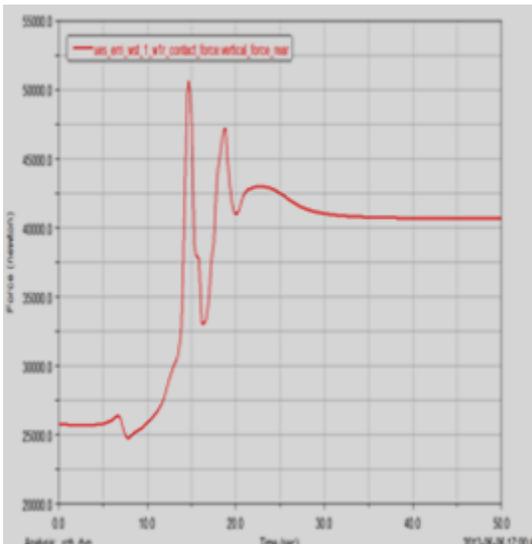
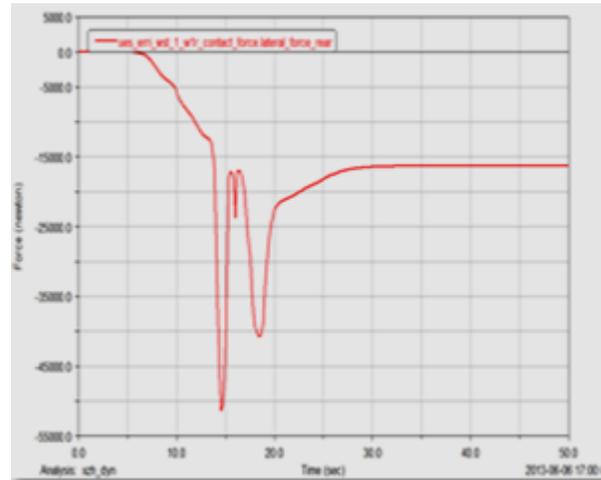


Analysis of temperature field and stress field of torpedo ladle

Torpedo Ladle Car - Quality Control



Vehicle dynamical model



Wheel rail transverse, longitudinal force change curve and vehicle derailment coefficient curve

Torpedo Ladle Car - **Quality Control**



- ✓ UT flaw detection of steel plate before manufacturing;
- ✓ Numerical control cutting of material;
- ✓ Gas shielded automatic welding and submerged arc welding to ensure the stability and reliability of welding quality.



Torpedo Ladle Car - Quality Control

Horizontal direction
check with level gauge



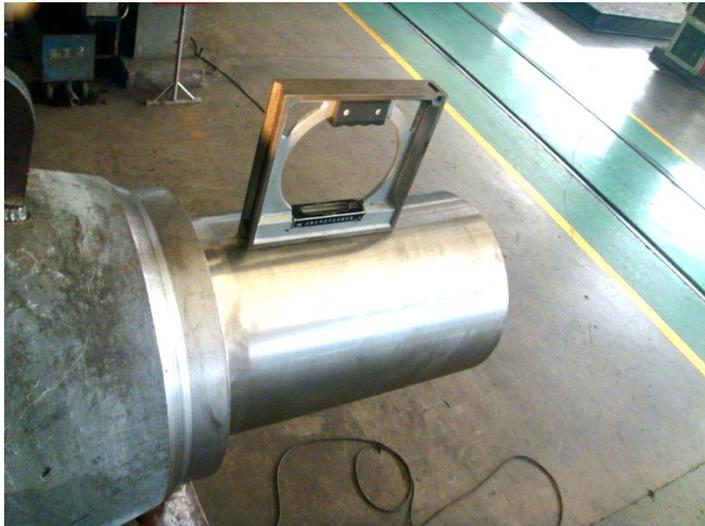
Special mould



Car frame integral
annealing



Frame level gauge check



Torpedo Ladle Car - Quality Control

Complete car test and checkout



Tilting test



Current test



Torpedo Ladle Car - Reference List

Sn.	Client	Supply Items	Time
1	Shougang Group	15*150 ton TLC	1979-1985
2	Shougang Group	65*260 ton TLC	1986-2005
3	Shougang Qinhuangdao Iron & Steel	18*260 ton TLC	2003-2008
4	Shougang Qianan Iron & Steel	40*260 ton TLC	2004-2008
5	Angang Heavy Machinery	5*320 ton TLC	2004-2008
6	Baotou Iron & Steel	30*260 ton TLC	2005-2006
7	Chengde Iron & Steel	11*260 ton TLC	2006
8	Tonghua Iron & Steel	23*320 ton TLC	2006-2011
9	Shougang Qinhuangdao Iron & Steel	16*320 ton TLC	2007
10	Chengde Iron & Steel	30*320 ton TLC	2007-2008
11	Brazil steel company	10*350 ton TLC	2007
12	Jinan Iron & Steel	14*350 ton TLC	2008
13	Masteel	2*350 ton TLC	2009
14	Ansteel	63*320 ton TLC	2014-2015

Sinotop Metallurgical Equipment & Technology (Beijing) Co., Ltd. is a metallurgical equipment provider which is specialized in engineering and manufacturing of BF Top Charging System, BF Top Equipment repair and upgradation, R & D of wear resistance liner.

The company also supplies a wide range of high quality products in iron-making and steel-making field, such as metallurgical valves, metallurgical transfer cars, ladles and slag pots, clay gun and taphole drilling machine, hot air supply device, and other spare parts.

Sinotop has strong engineering capability and cooperates with **Beijing Shougang Machinery & Electric (BSME)** for equipment manufacturing. BSME is a corporate subsidiary of Shougang Group, it has more than 300 sets precision machine tools and large scale digital control machine, with heat treatment technology and advanced physical and chemical testing equipment. It has acquired ISO 9001 international QMS certification and ASME quality certification.

Annual production capacity of metallurgical transfer cars 600 sets.

BSME Manufacturing Facilities



2.5m CNC gear hobber



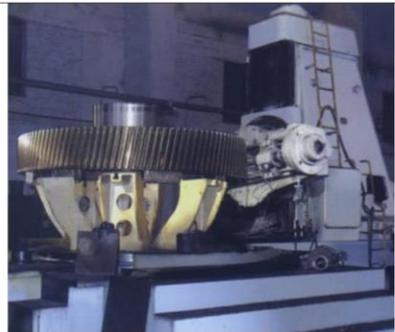
2*14m Heavy Lathe



5m Vertical Lathe



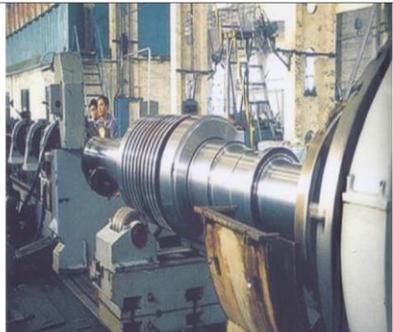
6.3m CNC Gantry Milling machine



3.2m CNC gear hobber



3.5m CNC Gear grinder



TA21150 drilling machine



6m CNC Gantry planer



4m vertical lathe



5*25m gantry milling machine



6m CNC Gantry milling machine



8m vertical lathe

BSME Manufacturing Facilities



8m CNC gear hobber



8m CNC gantry milling machine



200 CNC boring-milling machine



250 boring-milling machine



10m precision lathe



10m CNC Gantry milling machine



Gear test machine



Bending Machine



16m round lathe



160 CNC boring-milling machine

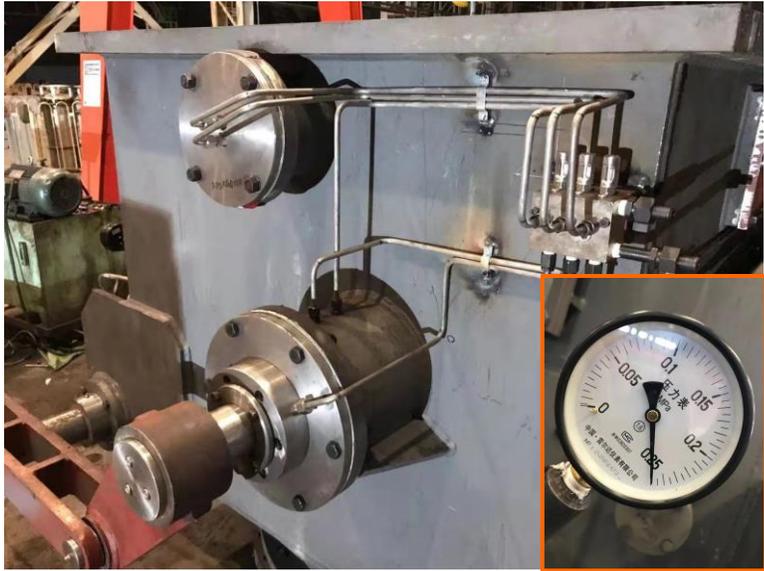


Coordinate Measuring Machine

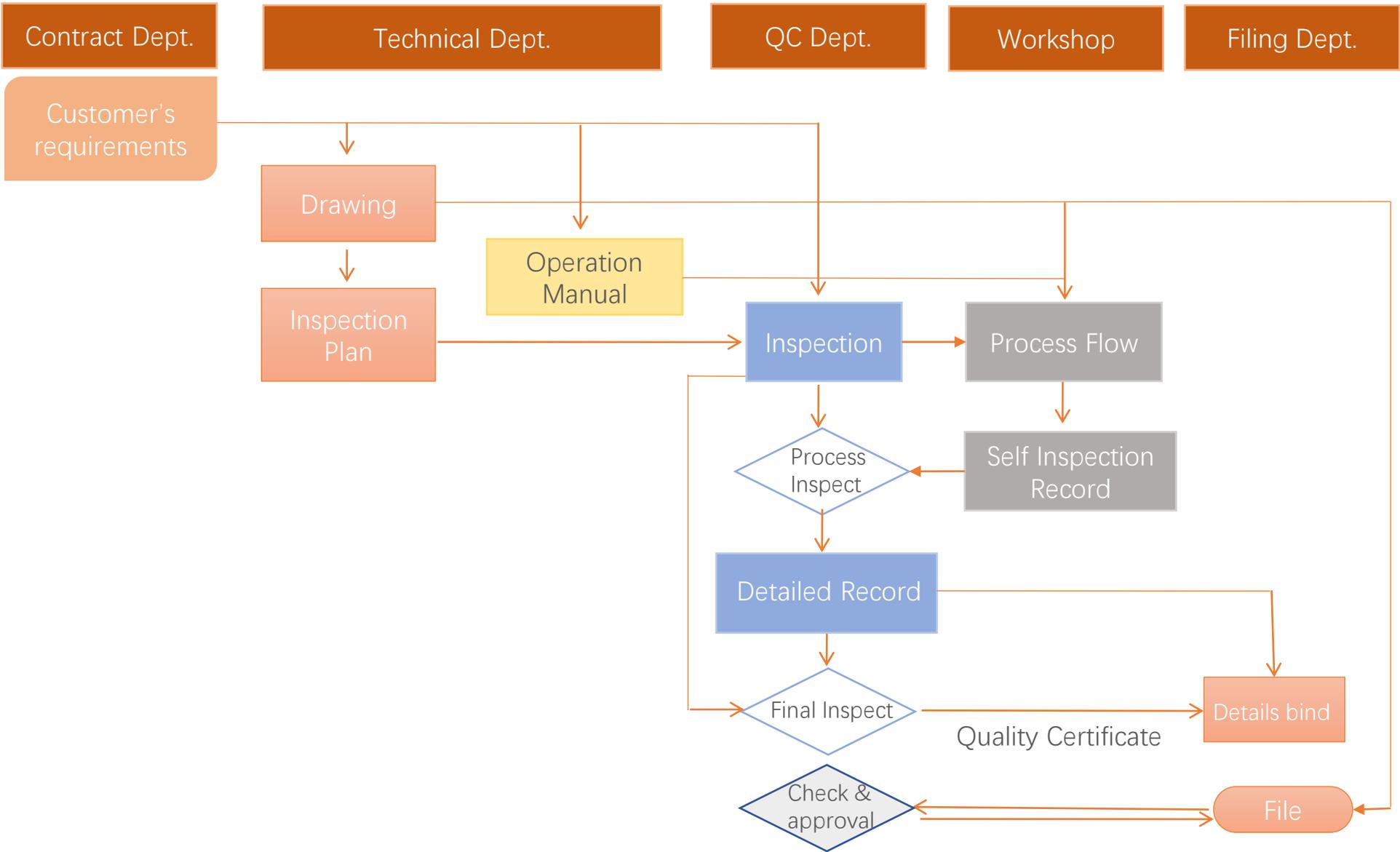


Horizontal machine center

Sinotop Quality Control System



Sinotop Quality Control System



SINOTOP, YOUR ALWAYS RELIABLE PARTNER!

