

Table of Contents

— Table of Contents:	Error! Bookmark not defined.
— Acknowledgement:.....	2
— Executive Summary:	2
✓ — Introduction:	2
✓ — Machine Shop:.....	2
— Pump Shop:.....	3
✓ — Valve Shop:.....	6
— Control Valves:	7
— Gate Valves:.....	7
— Ball valve:	8
— Butterfly Valve:.....	9
— Safety valve:	10
— Check Valves:.....	10
— Valve Pressure Testing:.....	11
✓ — Electrical Shop:	11
— Rewinding:.....	12
— Rotor Balancing:	13
✓ — Instrumentation Workshop:	15
— Production Department:.....	16
— Roboplazma machine.....	17
— Recommendations:.....	19
— Blasting and Painting.	19
— Production Department.....	20
— Installation of a Shade for the Production Warehouse.	20
— Procurement of Fume Extractor.....	20
✓ — QA/QC.....	20
— Valve Shop.....	21
— Draining Hydraulic Piston Actuators.....	21
— Procurement of Universal Valve test Machine.....	21
— Procurement of One Overhead crane in each valve shop:	21
— Conclusion:.....	22

ADYARD ABU DHABI

Acknowledgement:

I would like to show my deepest gratitude to ADYARD Abu Dhabi that have allowed me to enrich my knowledge. I would also like to thank Eswaran as he was responsible about the electrical shop, also Mr. Mushtaq who was responsible about the pump shop. Finally our deepest thanks goes to Mr. Mohammed Saqib who continuously supported us and have always been there when help was needed.

Executive summary

We visit many shops in the company and each company we learn a lot of things in each department so I will talk about it in my report.

Introduction

ADYARD ABU DHABI LLc is a group company of Interserve Engineering & Construction (UAE) Limited & Interserve PLC. It was formed in the year 1996 under the patronage of H E. Sheikh Mohammed Bin Butti. Interserve engineering currently has 80,000 employee and it is expanding its facilities to increase knowledge. During the internship we were exposed to different workshops and activities. We were assigned to maintenance workshops that deals with repairing and maintaining the machines. These workshops includes pump, valves+ , electric installation and motors.



Tool's store:

Inside the tool's store we can find hand and power tool, lifting gadgets, instrument, and equipment's with that equipment's can't finish the work without them, there are also testing and calibration procedures and documents for keeping the tools in good shape, tool store provide equipment's and material for another shops so they can start working, they also make delivery and receipt of items and disposal of rejected as well.

Machine shop:

In machine shop we can find many types of machines. One of them is milling machine, it's the machining process of using rotary cutters to remove material from a workpiece by advancing in a direction other type is lathe machine, it's a machine tool that rotates the workpiece on its axis to perform various operations such as cutting, sanding, knurling, drilling, or deformation, facing, turning, with tools that are applied to the workpiece to create an object with symmetry about an axis of rotation, and used in woodturning, metalworking, metal spinning, thermal spraying, parts reclamation, and glass-working. Lathes can be used to shape pottery, the best-known design being the potter's wheel. at an angle with the axis of the tool. It covers a wide variety of different operations and machines, on scales from small individual parts to large, heavy-duty gang milling operations. It is one of the most commonly used processes in industry and machine shops today for machining parts to precise sizes and shapes. The



Pump Shop:

A pump is a device that moves fluids (liquids or gases), or sometimes slurries, by mechanical action. Pumps can be classified into three major groups according to the method they use to move the fluid.

There are different kinds of pump:

The two types of pumps behave very differently regarding pressure head and flow rate: The Centrifugal Pump has varying flow depending on the system pressure or head. The Positive Displacement Pump has more or less a constant flow regardless of the system pressure or head.

Also they do in Adyard reverse engineering and pump rotating equipment over haul.

Valve shop

A valve is a device that regulates, directs or controls the flow of a fluid (gases, liquids, fluidized solids, or slurries) by opening, closing, or partially obstructing various passageways. Valves have many uses, including controlling water for Irrigation, industrial uses for controlling processes, residential uses such as on off & pressure control to dish and clothes washers & taps in the home valves are found in virtually every industrial process, including water & sewage processing, mining, power generation, processing of oil, gas & petroleum, food manufacturing, chemical & plastic manufacturing and many other fields. valves vary widely in form and application. Sizes typically range from to 72". Special valves can have a diameter exceeding 5 meters. valve costs range from simple inexpensive disposable valves to specialized valves which cost thousands of US dollars per inch of the diameter of the valve



Control valves

Control valves are valves used to control conditions such as flow, pressure, temperature, and liquid level by fully or partially opening or closing in response to signals received from compare a "set point" to a "process variable" whose value is provided by sensors that monitor changes in such conditions. Control valve is also termed as the Final Control Element.

Gate valve

A gate valve, is a valve that opens by lifting a round or rectangular gate/wedge out of the path of the fluid. The distinct feature of a gate valve is the sealing surfaces between the gate and seats are gate valves are often used when a straight-line flow of fluid and minimum restriction is desired. The gate faces can form a wedge shape or they can be parallel Gate valves are primarily used to permit the flow of liquids, but typical gate valves shouldn't be used for regulating flow, unless they are specifically designed for that purpose Because of their to cut through liquids, gate valves are often used in the petroleum industry. The typical gate valve has no obstruction in the flow path, resulting in very low friction loss.

Ball valae

A ball valve is a form of quarter-turn valve which uses a one side hollow, 100% round pivoting ball control flow through it. It is open, when the balls hole is in line with the flow and closed when it pivoted 90-degrees handle. The handle lies flat in alignment with the flow when open, and perpendicular to it when closed, making for easy visual confirmation of the valve's status. There are five general body styles of ball valves single body. three piece body. two piece body, top entry, and welded.

Butterfly valve

The closing mechanism A butterfly valve is a valve which can be used for isolating or regulating flow. for quick shut off. takes the form of a disk operation is similar to that of a ball valve, which allows designs as well as Butterfly valves are generally favored because they are lower in cost to other valve center of the pipe, being lighter in weight, meaning less support is required. The disc is positioned in the valve. Rotating passing through the disc is a rod connected to an actuator on the outside of the the actuator turns the disc either parallel or perpendicular to the flow.

Safety valve

A safety valve is a safety device and in many cases the last line of defence. It is important to ensure that the safety valve is capable to operate at all times and under all circumstances. A safety valve is not a process valve or pressure regulator and should not be misused as such. It should have to operate for one purpose only: overpressure protection.

Valve pressure testing

1)There are 3-piece ball valve

API 598 – manual valve

2)2-piece ball

API 6A – API clars

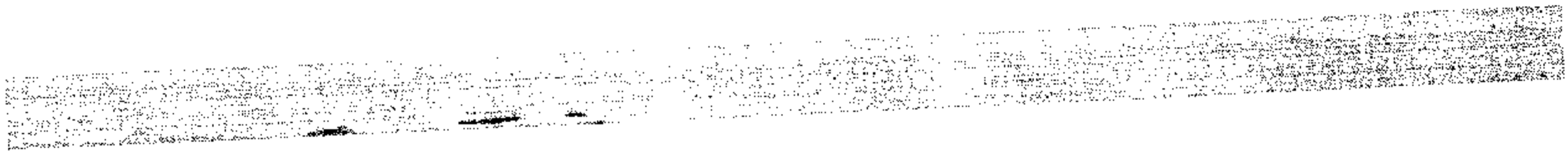
3)Top entry

API 527 – safety valve

4)Floating ball

API 576 – vacuum valve

FCI 70-2 - control valve



Electrical shop

In electrical shop. Firstly, we familiarized with processes and methods of disassembly, assembly, cleaning, testing, and pre/post heating. They receive the motor from the company then disassemble it and writes a report about the sizes then they send feedback to the company and waits for the reply to fix the motor, then they use WD40 to clean the rust then they use the water to clean the motor from dust and ashes then they put it inside the oven to dry, there are two type of meter one is for resistant and the other is megger for insulation, most of the motor came with a different shape and design depends on the leads some of them are 3 leads and others 6 leads, for insulation test the 3 lead we test it face to ground and for the 6 lead face to face and face to ground, after painting the motor they put it in the electric oven with 225 degree. Secondly, we familiarized with equipment and techniques used in electrical shop and their application, they are using rotter balancing and there is bigger balancer for 25-ton rotter. Finally, we familiarized with sales and business development of this shop, they receive different kind of motor from different companies such as ADCO, Zadco, Tabreed, and for bigger motor they order the coil from out.

Instrumentation lap

In the Instrumentation Lab The current temperature is about 22 degrees, because it is a suitable temperature for calibration proses, there is different type of testing in the Instrumentation lab, pressure tester, temperature tester, and mechanical tester.

Firstly, pressure tester:

- 1) Dead weight tester: working principle by pascal law, hydraulic pressure or giving pressure by rotating, 200 pascals high rang and 10 pascals low rang
- 2) Digital pressure calibrator: using air nomatic, and its only for low rang, we can check voltage temperature and current etc for measuring and stimulation.

Secondly, temperature tester:

- 1) Oil bath: for measuring temperature we can take both negative temperature and positive.
- 2) Multi-function calibration: use for measuring and stimulates, and can check voltage current, frequency, resistance for low and high rang.
- 3) Multi meter: for measuring parameters.
- 4) Field communicators: use for instrument calibration.

Finally, mechanical tester:

- 1) Block gage: to check Vernier caliber and outside micro meter measurement.



Recommendations

Most of us have worked with great colleagues, bosses, and employees during this period, and I was very happy with them and work with them

Conclusion

It was my pleasure to take my internship in ADYARD Company and I got to say that I have learned a lot in such a short time. The working environment was very helpful. ADYRD employees were willing to give the best guidance for the best learning outcome I can have.

References

http://www.arivalve.com/butterfly_valves.htm

<http://www.sybanindia.com/testimonials/>