



# SRI Group of Industries.....

## ☐ **Sri Ranganathar Industries P Ltd – Unit I (SRI – Unit I)**

Sand foundry & Machine shop – Max. Weight 1.2MT – 500 MT / Month

## ☐ **Sri Ranganathar Industries P Ltd - Unit II (SRI – Unit II)**

Sand Foundry – Maximum Single piece Weight 11 MT – 1500 MT / Month

Investment Foundry – Few grams to 110 Kg - 75 MT / Month

Machine shop – 20 MT single piece, Valve assembly and Testing

## ☐ **Sri Ranganathar Valves P Ltd (SRV)**

Sand Foundry – Max. Weight 4MT - 500 MT / Month,

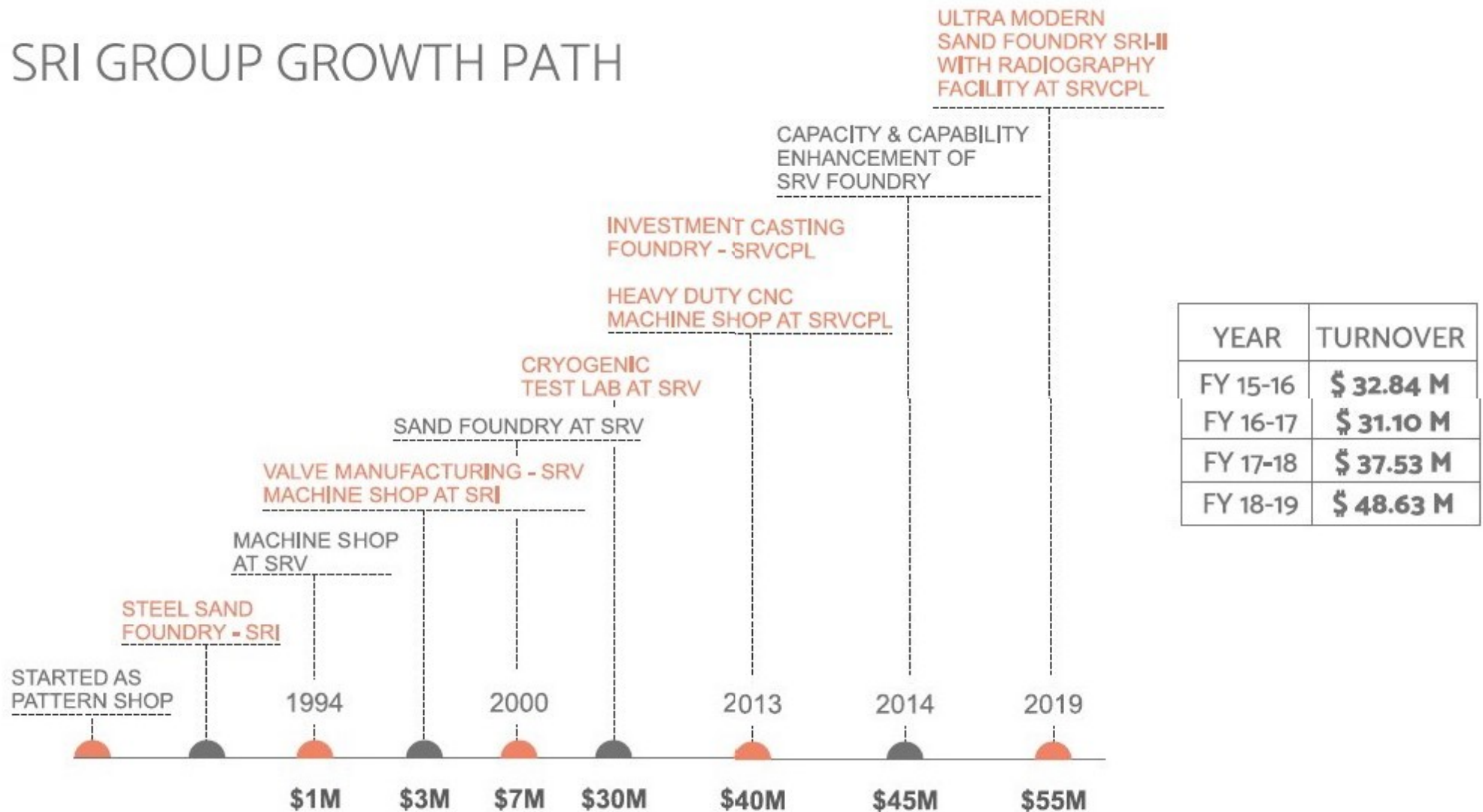
Machine Shop - GGC Valve assembly & Testing





# Growth path.....

## SRI GROUP GROWTH PATH





# Facility & Capability – SRI Unit-I

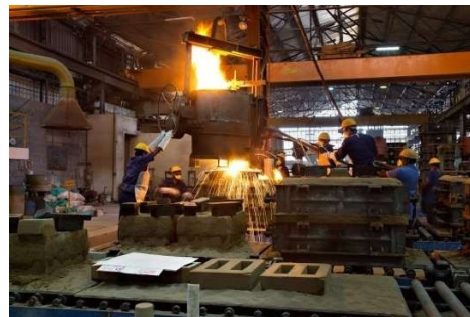
- Capability: Sand casting in Ready- For-Assembly (Fully Machined & Hydro tested ) condition in any steel grade in the weight range of 10 Kg to 1200 Kg.
- Capacity: 500 MT per month
- Facility:
  - 3D modeling, casting simulation analysis and pattern manufacturing
  - Sand processing, sand reclamation and sodium silicate / CO<sub>2</sub> molding
  - Battery of Induction furnaces, 100 Kg to 1500 Kg to meet any demand level in any grade
  - Electric & Oil fired heat treatment furnaces with quenching mechanism (300 Kg to 4 MT)
  - In-house fettling, radiography (Co 60 & Ir 192 sources) and up gradation facility
  - Array of CNC and conventional machines to do Proof machining to full machining of any casting
  - Chemical, Mechanical, IGC, Hydro testing and painting facility
  - CMM and in-house calibration of measuring instruments





## Facility & Capability – SRV (Foundry Div.)

- Capability: Sand casting in Ready- For-Assembly (Fully Machined & Hydro tested ) condition in any steel grade in the weight range of 10 Kg to 4000 Kg.
- Capacity: 500 MT per month
- Facility:
  - 3D modeling and Finite Element Analysis & analysis of Fluid dynamics & statics
  - Sand processing, sand reclamation and sodium silicate / CO<sub>2</sub> molding, CO<sub>2</sub> or no-bake core making
  - Fully automated molding line with Continuous mixer, Compaction table, roll-over and conveyors
  - Battery of Induction furnaces, 100 Kg to 4000 Kg ( 1500 KW, Dual track) to meet any demand level in any grade
  - Electric & Oil fired heat treatment furnaces with quenching mechanism (300 Kg to 6 MT)
  - In-house fettling to handle single piece casting of 5 MT, radiography (Co & Ir sources) and up gradation facility







## Facility & Capability – SRV (Valves Div.)

- Capability: Ready to Mount Gate (Wedge & Knife gate), Globe, Check valves, butterfly valves and ball valves in the size range of 1/2" to 72" in various pressure rating up to 2500 class as per API standards.
- Capacity: 4000 valves per month
- Facility:
  - 3D modeling and Finite Element Analysis & analysis of Fluid dynamics & statics
  - Array of Conventional and CNC machines to machine any type of valve casting with stringent dimension tolerances
  - CMM and in-house calibration facility





## Facility & Capability – SRV (Valves Div.)

- Capability: Ready to Mount Gate (Wedge & Knife gate), Globe, Check valves, butterfly valves and ball valves in the size range of 1/2" to 72" in various pressure rating up to 2500 class as per API standards.
- Capacity: 4000 valves per month
- Facility:
  - ☐ Valve assembly lines and painting booths
  - ☐ Fully automated hydro test, Cryogenic test, Fire safe test, vacuum test facilities and flow analysis laboratory
  - ☐ Fugitive Emissions Type Testing for Valves per API 622





## **Sand Foundry – SRI-Unit-2**

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- ❖ Installed Capacity of the Plant : 1500 MT per Month
- ❖ Molding Process : Phenolic Resin based No bake process
- ❖ Capability :
  - **Weight Range: Few Kg to 11 MT**
  - **Alloy: Carbon Steel, Low Alloy Steel, Duplex Steel, Nickel Based alloys and Copper based Alloys**
  - **Volume: One off to high runner**
  - **Testing: In house facility for all Chemical, Mechanical and NDE, including Radiography**
  - **Lead time:**
    - ❖ **New Product – 6 to 12 Weeks**
    - ❖ **Bulk Production: 4 to 8 Weeks**





# Sand Foundry – SRI-Unit-2

## ❖ Molding:

- ✓ Automated loop line for castings in the weight range of Few Kg to 1.5 MT with Sand Mixer (3 Ton, 10 Ton and 20 Ton Capacity), Compaction Table, Roll over and conveyors with mold heating ovens and Manipulators
- ✓ Manual Loop line for large castings for castings in the weight range of 1 Mt to 10 MT, with 45 Ton mixer, Compaction Table and Conveyor loop line







## Sand Foundry – SRI-Unit-2

### ❖ Melting:

- ✓ Battery of Induction Furnaces from 100 Kg to 6000 Kg (Dual Track) to cater any demand level in any alloys --- 8 Crucibles with 4 Power Packs
- ✓ Argon Oxygen Decarburization (AOD) with 3 Ton and 5 Ton Vessel





## Sand Foundry – SRI-Unit-2

### ❖ Heat Treatment:

- ✓ Battery of Heat Treatment Furnaces from 200 Kg to 12 MT – Electric & LPG Fired with Mechanized Quenching facility
- ✓ Furnaces are Designed to operate up to 1250 Deg C and calibrated as per API 6A, API 6D, ASTM A991 and Norsok M650
- ✓ Designed for Normalizing, Solution Annealing, Tempering and Stress Reliving







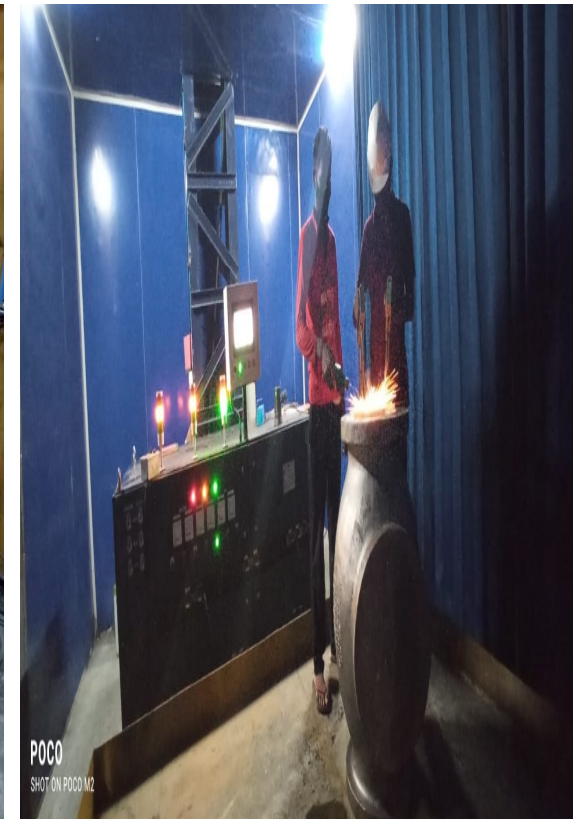
## Sand Foundry – SRI-Unit-2

### ❖ Fettling & NDE:

✓ In-house Fettling facility, ergonomically designed with Shot blasting, Pickling & Passivation, Welding and all testing facility like MPI, LPT & UT



Automated Shot  
blasting with  
Conveyor & Hoist



6000 Amps Head  
shot MPI





## Sand Foundry – SRI-Unit-2

### ❖ Chemical & Mechanical Testing:

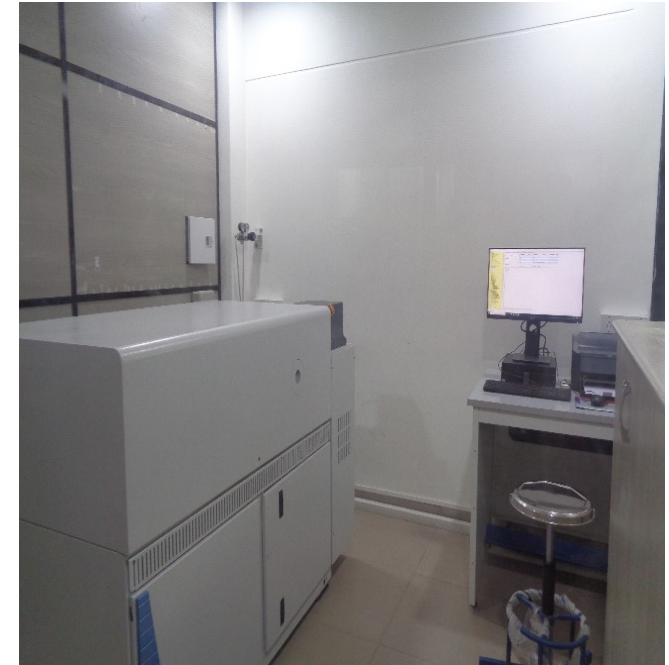
✓ **Optical Emission Spectrometer from ARL with 5 base (Iron, Nickel, Cobalt, Copper and Aluminum) and 32 elements. One each for Sand Foundry, Investment Foundry & Laboratory for final inspection & Certification**



Investment Foundry



Sand Foundry



Laboratory



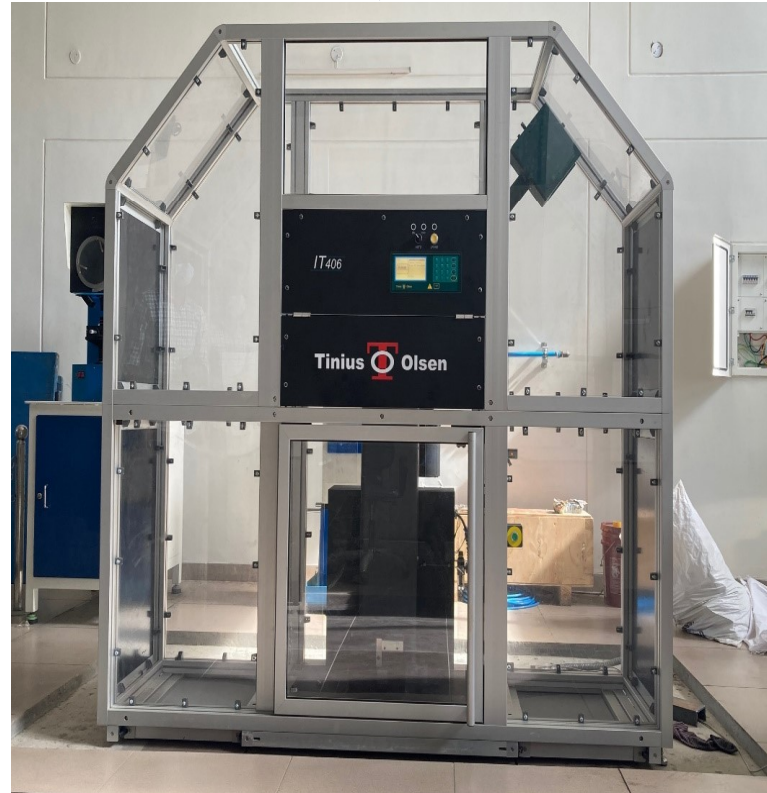
## Sand Foundry – SRI-Unit-2

### ❖ Chemical & Mechanical Testing:

- ✓ UTM of 600 KN with hot tensile testing up to 1200 Deg C from Tinus Olsen, US
- ✓ Digital Impact Testing Machine, up to 400 Joules, both ASTM & EN from TO, US
- ✓ Digital Hardness Tester – Brinell, Vickers and Rockwell



UTM with Hot  
Tensile



Impact Testing



Hardness Testers





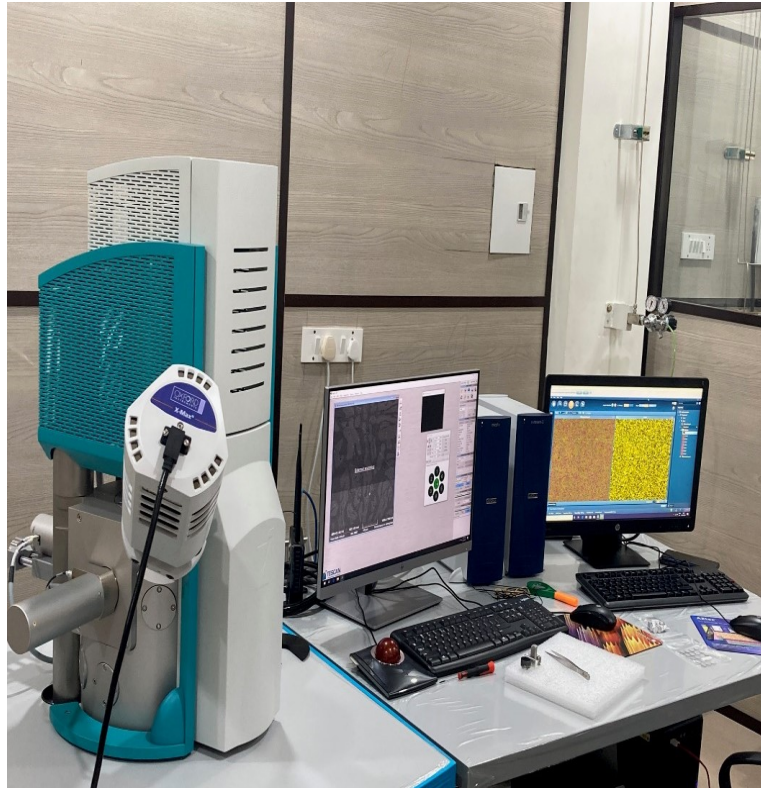
## Sand Foundry – SRI-Unit-2

### ❖ Gas & Element Analyzers :

- ✓ LECO Oxygen, Nitrogen & Hydrogen analyzer
- ✓ Digital Carbon Sulphur apparatus with PPM level accuracy from Horiba
- ✓ Scanning Electronic Microscope from Tescan, Czech



Leco...



SEM....



Digital C&S





## Sand Foundry – SRI-Unit-2

### ❖ Radiography :

- ✓ In-house RT facility with Linear Accelerator ( Linac 6 MeV / 9 MeV) with Manipulator
- ✓ Iridium 192 and Cobalt 60 with 100 Curie Strength
- ✓ Automated Film Developer





## Investment Foundry SRI-Unit-2

❖ Installed Capacity of the Plant : 75 MT per Month

❖ Capability :

- **Weight Range: Few Kg to 130 Kg**
- **Alloy: Carbon Steel, Low Alloy Steel, Duplex Steel, Nickel Based alloys and Copper based Alloys**
- **Product Range:**
  - ✓ **Butterfly & Knife Gate valve body and internals 2" to 10"**
  - ✓ **Safety Relief Valve body, bonnet, Nozzle / Guide Rings, ½" to 3"**
  - ✓ **Globe Valve Body ½" to 4"**
  - ✓ **Sleeved Plug Valve body ½" to 6"**
  - ✓ **Open / Closed Impellor, bowl. Diffuser and casing up to 130 Kg (Single piece)**
- **Volume: One off to high runner**
- **Lead time:**
  - ❖ **New Product – 6 to 12 Weeks**
  - ❖ **Bulk Production: 4 to 8 Weeks**





# Investment Foundry – SRI-Unit-2

**In-house Die Manufacturing**



**12 & 35 Ton Semi Automated Press**



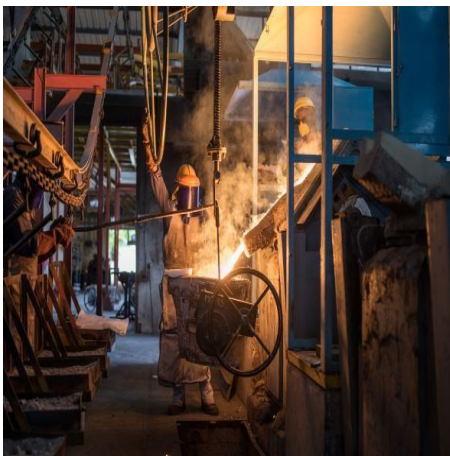
**Primary Coating under controlled ambient**



**Automated back up coting with Robot of 210 Kg payload**



**Induction Furnace with 100 / 250 Kg Crucibles**



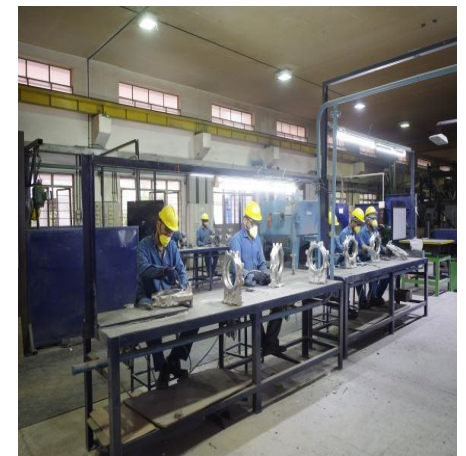
**Rotary hearth Sintering Furnace , Conveyor for Pouring**



**Electric Heat Treatment Furnace with auto quenching**



**Fettling Cells**







# Machine Shop – SRI-Unit-2

- **Capability:** Precise machining of any Castings – Few Kg to 25 MT
- **Facility:**
  - ❖ Well planned layout on a 45000 Sq. ft. building
  - ❖ Battery of 5- Axis machines Mazak and Trevisan
  - ❖ Battery of Heavy duty HMC, VMC , VTL and boring machines
  - ❖ CMM and in-house rework facility





# Alloys.....

Nickel based alloys: CZ100 , M35-1, CW2M, CX2M, N12MV, N7M, CW12MW, CY40, CW6M. CW6MC, CU5MCuC ( DIN 2.4170 2.4365., 2.4610, 2.4602, 2.4600, 2.4686, 2.4816, 2.4856 )

Duplex and Super Duplex : ASTM A 995 Gr. 4A, 5A, 6A, 1B – ( DIN 1.4470 / 1.4469 / 1.4460 / 1.4462 )

Austenitic Stainless Steel: ASTM A 351 Gr. CF8M, CF3M, CF8, CF3, CG8M, CG3M, CF8C, CK3MCuN, CN7M, ( DIN 1.4408 / 1.4409 / 1.4308 / 1.4309 / 1.4552 / 1.4547 / 2.4660 / 1.4517 / 1.4501 )

Martensitic Stainless Steel : CA6NM (1.4317)

Carbon Steel : ASTM A 216 Gr. WCC, WCB, ( DIN 1.0619 / 1.0619 QT )

Low temperature service Steel : ASTM A 352 Gr. LCC, LCB ( DIN 1.6220 / 1.5419 )

Cr-Mo-Alloy Steel : ASTM A 217 Gr. WC6, WC9, CA15, C12, C12A, C5 (DIN 1.7357 / 1.7379 / 1.4011 / 1.4903 / 1.7365 )

Precipitation Hardening Steel : ASTM A747 – CB7Cu-1 ( 17-4PH ) ( DIN 1.4540 )

Heat Resistant Steel : ASTM A297 Gr.HK, EN10295 1.4849

Copper based Alloy : Mn-Bronze and Pb-Sn-Bronze



# Quality Accreditations....

Our Quality Management System is certified to a number of national and international quality standards, as below.....

API 6D for assembled valves

TUV Nord for

ISO 9001-2015

PED 2014/68/EU

AD 2000 – MERKBLATTW0

Fire safe certification for Ball valve



For Marine applications we are certified by

LLYOD'S, BV, DNV-

GL ABS & KR.

NABL ACCREDITATION to our Chemical & Mechanical Testing Laboratory and Mechanical Calibration

Laboratory as per ISO/IEC 17025 : 2017

NORSOK QUALIFICATION Per M-650 & MDS D46,D56 & R16 ( ASTM A995Gr 4A , 5A &6A

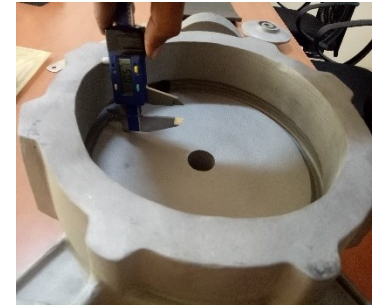
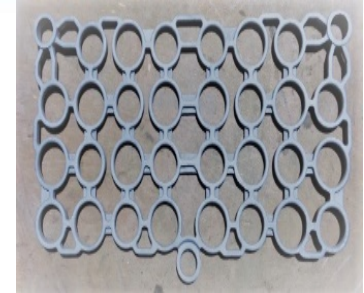
ASTM A 351 Gr.CK3MCuN & ASTM A 494 Gr.CW6MC

These certifications ensure a high level of accountability, quality control, as well as constant up gradation of our systems on a continuous basis..





## Few Products – Investment Casting .....







## Few Products – Sand Casting .....



36" 600 Check Valve – 7 MT...



Hub in Duplex Grade for Centrifuge Equipment





## Few Products – Sand Casting .....



64" 300 TOBV Body - CF3M – 6.3 MT...



Single & Double Volute Casing with Jacket...



12" to 24" Knife Gate Body Twin Screw Pump



## Product Range....

Item : 18" 300 Globe Body Grade :  
Inconel 625 (ASTM A494 CW6MC) Weight  
: 1610 kg







## Product Range....

Item : 24" 600 Globe Body Special Process : Stellite Welding  
Deposition on Double Seat Body Weight : 3490kg







Thank you.....