



SEMS
G R O U P



Engineered Product & Parts



Wilmington, Delaware

Website : www.semsgrp.com Email : info@semsgrp.com, sales@semsgrp.com

Phone : (302) 321-6839

A Glance into SEMS Group

Industrial
Equipment &
Product
Manufacturer

15+ years
Doing
Business in
the USA!

Global
Expertise

Foundry
in India

In-House
Design,
Development,
& Testing

High Class
Quality Products
at a Competitive
Cost

Facilities



Foundry – Offering

Aspect	Offering
Industries Served	Valves, Pump, Steam Turbine, Hydro Turbine, General Engineering
Metallurgies	Carbon Steel, Alloy Steel, Stainless Steel, Duplex, Super Duplex, Exotic Alloy Casting i.e., Inconel, Hastelloy, Monel, Nickel Base Alloys, C12, C12A, C5 and others
Scope of Supply	Finish Machined /Proof Machined / As Cast.
Piece Weight (Kg)	100 to 3000 Kg / pc (205 to 6600 lb.'s/Pc) (Cast Weight)
Type of Castings	As Per Customers Drawings / Specifications. Body, Bonnet, Yoke, Wedge, Disc, Turbine Casings, Crown, Band, Blade, Wicket Gates, Carriers, Housings, Covers and others
Applications	Cryogenic, Low Temperature, Oxygen Application, Hydrogen services, API Spec Q1/6D from American Petroleum Institute.

Foundry – Infrastructure

Aspect	Infrastructure
Capacity	Installed - 3000 Tons / Annum Available Capacity - 1200 Tons / Annum
Pattern Shop	Teak Wood & Aluminum In house pattern shop and Approved Vendors. Storage capacity: Sufficient space of storage for more than 15000 patterns.
Engineering	AutoCAST-X Simulation Software.
Manufacturing	Molding - PLC Controlled Molding Line using No Bake Alpha Set Process with ‘ Continuous Mixer (20Tons/Hour) & Sand Reclamation (06MT/Hour) & Dust Collectors.
Melting	Inductions Furnaces - 1000 kg, 1500 kg, and 3000kg. 650 kw medium frequency.
Lab (all in house)	Chemical, Mechanical, Impact with Digital ‘V’ notch charpy up to -196°C NDT - UT, MT, DP & RT (Co and Ir) Dimensions, Hardness Testing, V-Notch Checking and others
Heat Treatment	PNG operated HT Furnace with PID Temperature controlled for 2.5 MT & 4.0 MT.
Surface Treatment	Shot Blasting, Pickling and Passivation, Anti Rust, Grit Blast
CNC Machine Shop	In House CN Machine Shop – See slide 34 below

Foundry – Equipment

Machine	Details
Omega Continuous Mixer	20 Ton / Hrs. with alpha set (No back) binder system
Induction Melting Furnace (3 no.'s Crucible)	3 Ton, 1.5 Ton & 1 Ton.
Cranes (HT Type)	7 Nos. (2 Ton to 10 Ton)
Shot Blasting Machine	RPM 2800,
Heat Treatment Furnaces	Boggy Type 1 no. 2300 mm L x 1750 mm W x 1500mm H Hearth Type, with Water Quenching Facility 1 no. 1100 mm L x 1200 mm W x 1200 mm H
Air Compressor	200CFM & 250CFM
M.P.T. Machine	Wet Type Prod method

Foundry – Testing Lab

Machine	Details
Universal Testing	Computerized UTM with Extensometer Cap. 400KN Model TUF - C 400
Spectrometer	Spectrometer with Nitrogen Base, Ni. Alloys, SS, CS, Alloy & Low Alloy Steel
Impact Testing	Digital 'V' notch charpy up to -196°C, Capacity- 300 J
Hardness Testing	HRC, HRB
Optical Profile Projector	For Impact Test Piece "V" notch Identification
M.P.T.	1500 AMPS & 6000 AMPS PROD type Magnetic Practical Inspection machine
Ultra-Sonic	Edition 2. Magnetic Sound Waves for defect Analysis

Foundry Jobs References

Aspect	Strengths
Customers Partial List	Babcock, Spain, Perar, Italy, OHL, Germany, Schuff, Germany, Vanes Rigau, Italy, Mokveld, The Netherland, Sibeck-Bitter, Germany and Others.
EPC Approvals Partial List	Bechtel, Alstom, Crain, BP, Petronas, BHEL, ONGC, GAIL, EIL, Exxon, Essar, Indian Oil, HP, Gasco, Sabic, Air Liquide, Gazprom, Kuwait Oil and others

Certifications

Aspect	Strengths
Certification	Integrated Management System, ISO 9001:2015, IBR, Norsock, ISO 14001:2015, ISO 45001:2018, OHSAS 18001 & CE Marking-PED 97/23/EC CE (PED), AD 2000-Merkblatt WO. Maintaining Since 2011.
Strength	Strong Engineering, QC, Metallurgy Knowledge, Welding Technology, Team is well qualified & experienced

Molding & Core Shop



Molding

Molds for Closing



Shot Blasting & Pickling Passivation



Pickling & Passivation – surface treatment of all stainless steel and Nickel base alloy casting.

Melting

Type – Induction Furnace

No's – 03 Crucibles

Capacity – 1 Ton, 1.5 Ton, 3 Ton



Heat Treatment

Heat Treatment Furnace

Type – Gas Fired

No's – 02

Type – Buggy Type 1 no.

Size – 2300 mm L x 1750 mm W x 1500 mm H,
Hearth Type, with Water Quenching,
1100 mm L x 1200 mm W x 1200 mm H



Quenching

No's – 01

Medium of Quenching – Water

Size of Tank – 6000 mm L x 6000 mm W x 3000 mm H

Max Time for Quenching – withing 50 seconds

Castings: Valves, Pumps, Hydro-, Steam- and Gas Turbines, Engineering Industry Applications

Material: Carbon Steel, Alloy Steel, Stainless Steel, Duplex, Super Duplex, Inconel, Monel, Hastelloy, C12, C12A, C5, CA6NM Weight

CA6NM Weight: 100 to 3000 Kg/Pc.

Scope: as Cast / Proof Machined / Finish Machined

Valve Castings



Finished Machined Castings



Yoke



Bonnet



Disc



Wedge

Hydro Turbine Castings



Casting: Wicket Gate / Guide Vanes

Material: ASTM A743 CA6NM

Weight: 100 to 2600 Kg.



Casting: Crown

Material: ASTM A743 CA6NM

Weight: 300 to 2600 Kg.



Casting: Cone

Material: ASTM A743 CA6NM

Weight: 100 to 2500 Kg.

Hydro Turbine Castings Cont'd



Casting: Band

Material: ASTM A743 CA6NM

Weight: 100 to 2600 Kg.



Casting: Nose Cone

Material: ASTM A743 CA6NM

Weight: 100 to 2500 Kg.

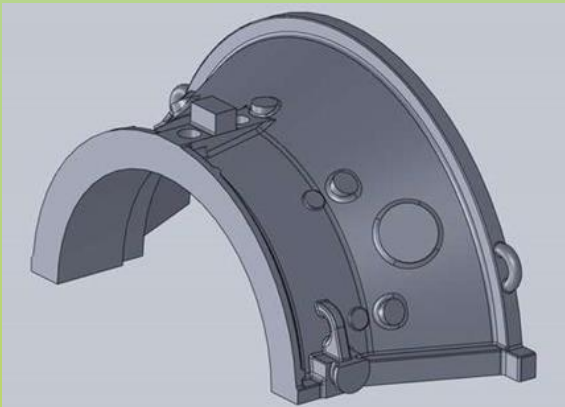


Casting: Hub

Material: ASTM A743 CF3M

Weight: 200 to 2200 Kg.

Steam Turbine Castings



Turbine Castings

Casting:

Inner & Outer Casings (LH & UH)
Main Steam Control Valve Casing
Control Regulating Valve Casing
Turbine & Exhaust Casings
Inlet & Outlet Casing
Intermediate piece, Blade Carrier, GB Carrier,
Cover



Turbine Blades

Material:

G17CrMoV5-10 (1.7706+QT)
G17CrMo5-5 (1.7357+QT)
G17CrMo9-10 (1.7379)
G20Mo5 (1.5419)
GP240GH (1.0619+QT)
ASTM A217 WC6 / A217-WC9

Weight: Up to 2500 Kg.

Gas Turbine Castings



Compressor Discharge Casing

Casting
Compressor Discharge Casing
Turbine Casting
Middle Casing
Exhaust Casing
Discharge Elbow
Turbine Shell (UH & LH)



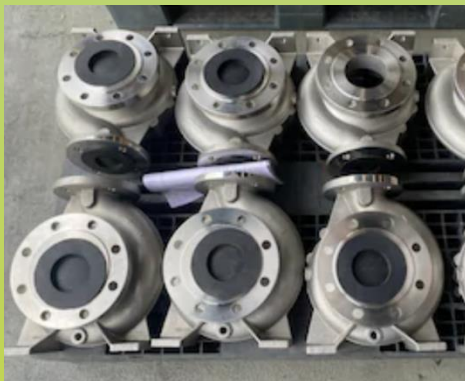
Diaphragm Shell

Material:

G17CrMoV5-10
(1.7706+QT)
G17CrMo5-5 (1.7357+QT)
G17CrMo9-10 (1.7379)
G20Mo5 (1.5419)
GP240GH (1.0619+QT)
ASTM A217 WC6 / A217-WC9

Weight: Up to 2500 Kg.

Pump Parts



Sample List:

Casing
Impeller
Backing Plate
Shaft
Shaft Sleeve
Shaft Seal
Motor Adapter

Couplings



Sleeve Couplings
Flange Couplings

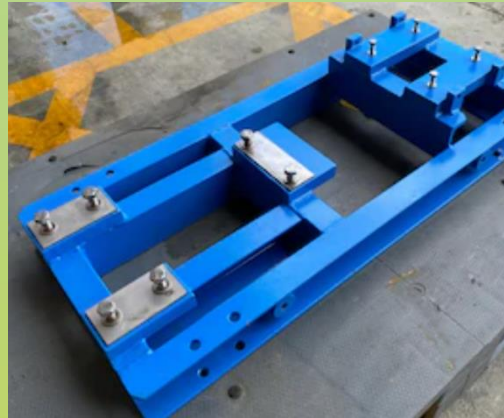


Shaft Couplings
Gear Couplings
Adapters

Base Plates



Foot Mounts
Vertical Mount Adapters



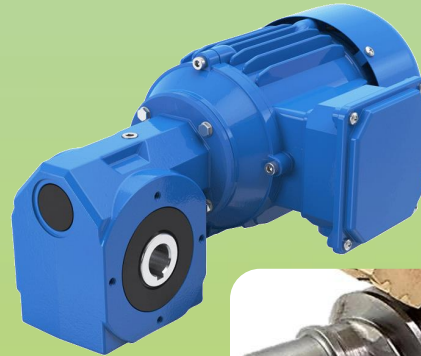
Mounting Plates
Cast Mounts

Gear Box



Bevel Helical

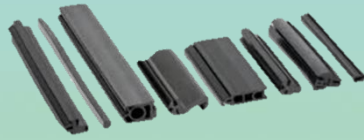
Helical bevel geared motors represent the ideal solution for drive tasks where an angular geared motor with high power density is required with continuously high output torques.



Worm

Worm drives are a compact means of substantially decreasing speed and increasing torque. Small electric motors are generally high-speed and low torque; the addition of a worm drive increases the range of applications that it may be suitable for, especially when the worm drive's compactness is considered.

Truck Spares



- Hoses
- Fan
- Radiator
- Seals
- Hinges
- Fuel Tank
- Latches
- Sunroof Railing
- Battery Box
- Battery Cable Terminals
- Belts
- Gaskets
- Rotors
- Exhaust Clamp and Bracket
- Gear Coupling
- Gear Pump
- Gear Ring
- Clutch Fan
- Differential Seal
- Fasteners
- Grooved Ball Bearings
- Roller Bearings
- Sleeve Bearings
- Wheel Bearings
- Water Tank
- Radiator Pressure Cap

Industrial Fasteners



Orders per our
customer's request.