Steelcon Engineering LLP

Eminent Standards.

COMPANY PROFILE
2026



SINCE 1990 · ANKLESHWAR, INDIA

Process equipment, engineered in high & exotic alloys.

Pressure vessels · Reactors · Hydrogenators · Heat exchangers · Columns · Agitators

36 yrs
ENGINEERING & FABRICATION

3,600+
PROJECTS COMPLETED

9
CERTIFICATIONS & APPROVALS

ISO 9001:2015
ASME 'U' DESIGNATOR
NBIC · NB 'R' & 'NB'
IBR 1950
EN ISO 3834-2
AD 2000-MERKBLATT HP 0
PED 2014/68/EU · CE 0045
ATEX 2014/34/EU

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00 AT A GLANCE

Thirty-six years. One standard.

A designer and manufacturer of pressure vessels, heavy engineering and process equipment — specializing in high and exotic alloys, high-pressure hydrogenation and code-stamped construction.

1990
Established — 36 years of engineering and fabrication

3,600+
Projects completed for the process industries

180+
Customers in India and abroad

65,000+ sq ft
Manufacturing area, GIDC Ankleshwar

9
Company certifications & code authorizations

156 kL
Largest pressure vessel / tank supplied to date

45 mm
Heavy-wall shell thickness fabricated

~215 bar
Highest design pressure built to date

INDUSTRIES WE SERVE

Chemicals · Pharmaceuticals & intermediates · Agrochemicals · Specialty chemicals · Petrochemicals · Energy · Oil & gas · Food · Dyes & pigments · Paints & adhesives · Composites · Water & effluent treatment

Engineering experience. Specialty metallurgy. Dependable execution.

Established in 1990 as Steelcon Engineering, Steelcon Engineering LLP is a designer and manufacturer of pressure vessels, heavy engineering equipment and process equipment, with specialized expertise in high-alloy materials of construction. Based in Ankleshwar, Gujarat, we bring 36 years of engineering and manufacturing experience to demanding industrial applications in domestic and international markets.

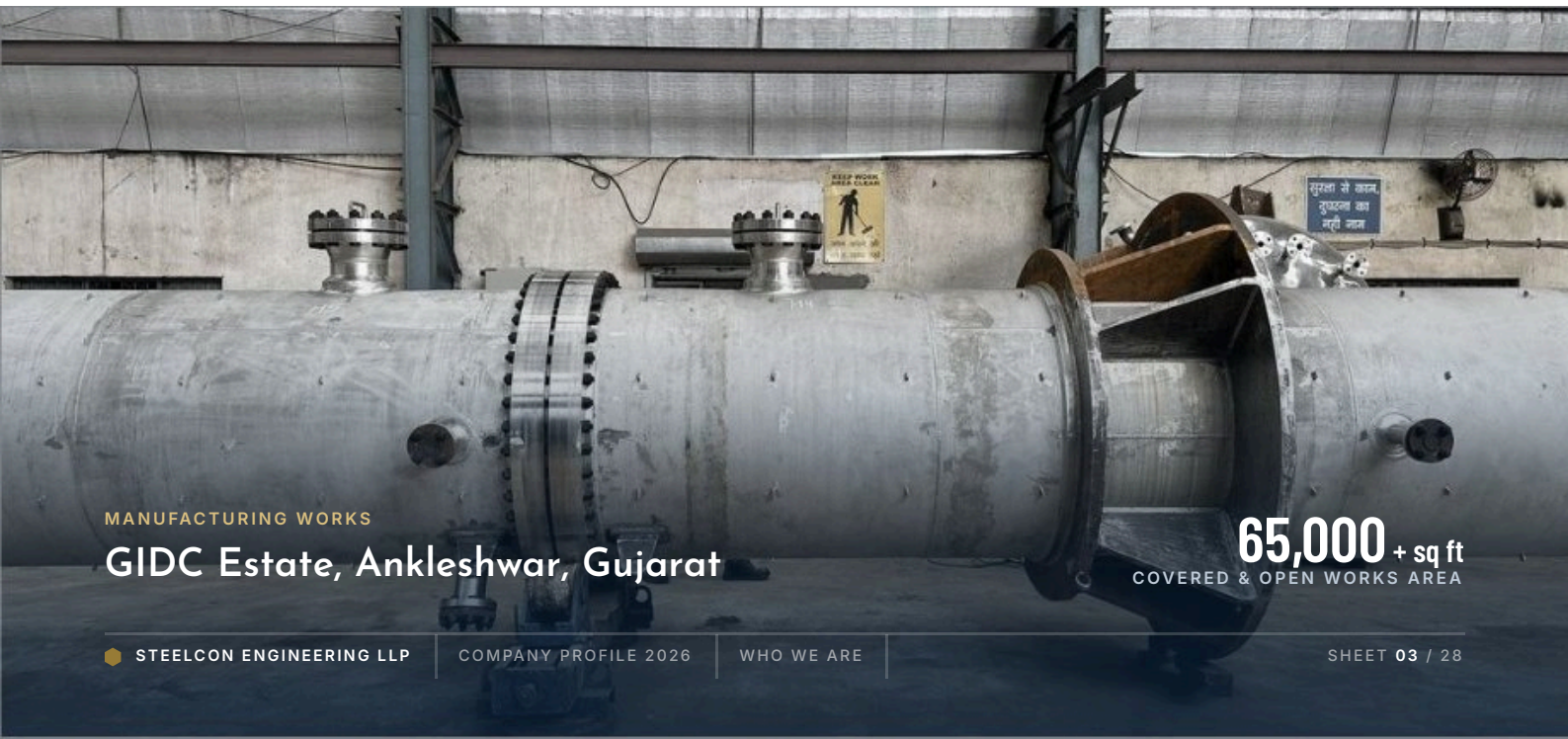
Our well-equipped, self-sufficient workshop supports the manufacture of equipment tailored to customers' process requirements. We work with stainless steels, Hastelloy, Inconel, Monel, duplex, super-duplex and hyper-duplex grades, Sanicro 28, 254 SMO, nickel and carbon steel — and our experience in material selection, fabrication and welding lets us take on equipment with demanding service conditions and metallurgical challenges.

Quality control is integrated throughout fabrication, with inspections at defined stages, and our work follows recognized codes and standards including ASME BPVC, TEMA, IBR, DIN, BS, EN 13445, AD 2000, API and IS 803, together with applicable 'U' Designator, PED, CE marking and ATEX requirements.

Our approach combines technical precision, continuous improvement and close coordination with customers — dependable equipment, competitive pricing and timely execution that support our customers' process performance and long-term business objectives.

Our product portfolio includes pressure vessels, agitator assemblies, reactors, autoclaves, hydrogenators, heat exchangers, tubular catalytic reactors, columns, receivers, pressure filters, nutsche filters, sand mills, rotary vacuum dryers, storage tanks, M.L. tanks, pre-fermenters, fermenters, dryers, silos, mixers, blenders and customized equipment.

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MANUFACTURING WORKS

GIDC Estate, Ankleshwar, Gujarat

65,000 + sq ft
COVERED & OPEN WORKS AREA

From a modest workshop to a code-authorized manufacturer.

1990	Established in Ankleshwar, Gujarat as Steelcon Engineering.
1995	First major machinery and facility expansion.
1997–98	Workshop area expanded across Plots 5015, 5016 and 5014, GIDC Ankleshwar.
2011	ISO 9001:2008 certification (NABCB accreditation).
2016	Adjacent land acquired — works now span Plots 5013 to 5016.
2017	ISO 9001:2015 (DAkkS) · PED 2014/68/EU verification · EN ISO 3834-2 welding system approval · AD 2000-Merkblatt HP 0 workshop approval.
2019	Authorized to use the ASME ‘U’ Designator and the National Board ‘R’ and ‘NB’ stamps.
2021	Incorporated as Steelcon Engineering LLP; Manufacturing Unit 2 added through the acquisition of M/s. Akanksha Engineering.
2022	Area expansion and upgrade of existing facilities.
2023	Strategic capacity expansion — 3-axis CNC VMC, CNC plasma, higher crane capacity and semi-automatic plate rolling.
2024	IBR 1950 workshop approval.
2025–26	ASME ‘U’ and NB ‘R’ authorizations renewed to 2028 · PED Modules A2 & G (CE 0045) and ATEX 2014/34/EU certifications · IBR approval extended to 2028.
Today	**PESO workshop approval application in progress; targeting INR 75 crore turnover by FY 2030.**



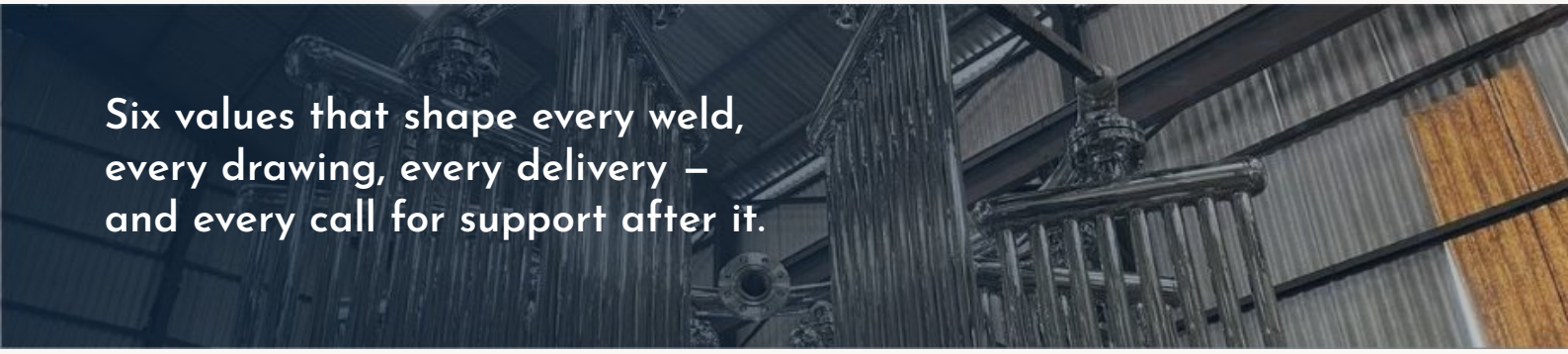
Customer focus is our DNA.

VISION

With customer focus as our DNA, we shall be the globally trusted pioneers leading the world towards process engineering equipment, delivering optimal engineering solutions through technical excellence and innovation.

MISSION

To design and manufacture reliable, efficient and technologically advanced process equipment of the highest quality, helping our customers improve productivity, strengthen profitability and achieve long-term growth & development.



Six values that shape every weld, every drawing, every delivery – and every call for support after it.

01

Customer-Centric Innovation

We keep looking for better ways to serve our customers' needs — in every project, and whenever they call on us between projects.

02

Precision & Veracity

We deliver only our best work, upholding high standards of accuracy and integrity in everything we do.

03

Agility & Resilience

We adapt quickly and stand firm in the face of challenges, ensuring continuous growth.

04

Resonant Leadership

Every project is personal. We lead through empathy, connection and a shared vision for collective success.

05

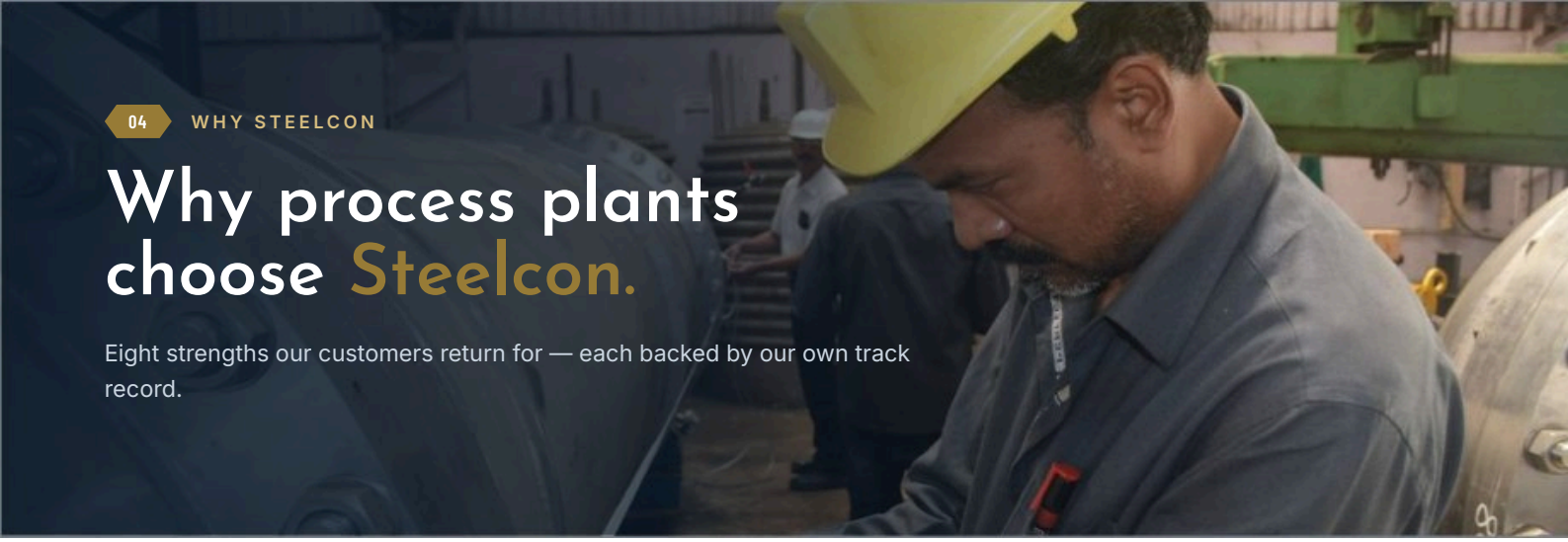
Trust & Reliance

We build lasting relationships founded on consistency, dependability and confidence in quality — and on support that continues long after delivery.

06

Teamwork & Harmony

Our word is our bond. We unite diverse talents and perspectives to achieve shared goals.



04 WHY STEELCON

Why process plants choose Steelcon.

Eight strengths our customers return for — each backed by our own track record.

01 High & exotic alloy specialists

Hastelloy C-276, C-22 and C-2000, Inconel, Incoloy, Monel, Alloy 20, 904L, 254 SMO, Sanicro 28, duplex families and nickel — in solid or explosion-bonded clad construction for corrosive, cryogenic and high-temperature duty.

Explosion-bonded C-2000, C-22 and C-276 clad equipment, cryogenic to high-temperature duty

02 Hydrogenator masters

Hydrogenators, gas-induction reactors and autoclaves engineered around each process — references to 20 m^3 and 70 kg/cm^2g, cryogenic to high-temperature duty, double mechanical seal or magnetic drive.

Limpeted, high-pressure and clad hydrogenators — with repeat orders

03 Agitator assembly & impeller design

Impellers sized for the duty; shaft, seal and drive engineered as one assembly; every unit trial-run on our own benches before dispatch — for new vessels, as stand-alone assemblies or as upgrades.

150 HP agitator drive · 90 kL agitated reactor · reactor systems to 20 kL

04 Shell & tube heat exchanger specialists

Every TEMA type — fixed tube-sheet, U-tube, floating head, kettle, condensers and reboilers — thermally designed and rated with HTRI and carried through mechanical design, fabrication and testing.

~1,000 m^2 exchanger · duplex and Inconel 600 exchangers

05 Fluent in codes & compliance

ASME 'U', NB 'R' and 'NB', PED (Annex I 3.1, Module A2), AD 2000 HP 0, EN ISO 3834-2, IBR and ISO 9001:2015 — with order-specific PED Module G and ATEX certification where a project requires it, and dossiers built to satisfy third-party inspection.

Experience with leading inspection & certification bodies — TÜV, BV, LR, SGS, DNV and more

06 Drawing review that adds value

We review every specification and drawing for what it may have left unsaid — operability, maintenance access, cleanability, safety and life-cycle cost — and propose improvements for approval.

≈ ₹1 crore saving on bed dryers · 15% shorter batch time on a hydrogenator

07 Support that does not end at dispatch

Our engineers stay available to customers for questions, site support, repairs, spares and upgrades — whether or not a project is running with us, and whether the equipment came from our works or elsewhere.

National Board 'R' repairs and alterations at shop and field · commissioning and inspection support on request

08 Experience & on-time execution

36 years of fabrication know-how, skilled welders, fitters and riggers, in-house agitator trials and hydro testing, and regular progress updates to every customer.

Repeat orders from leading chemical and pharmaceutical producers

Built to the drawing. Reviewed beyond it.

Every specification and approved drawing passes through an engineering review before steel is cut. Beyond code compliance, our engineers look for what the specification may have left unsaid — the details that decide how the equipment will be operated, cleaned, inspected and maintained for decades. Every suggestion goes to you for approval — and the same engineers remain available once the equipment is in service.

STEP 01
Specification review
Process duty, design data, codes, materials of construction and inspection requirements.

STEP 02
Design verification
Code calculations verified in COMPRESS and PV Elite; nozzle loads, supports and fabrication feasibility.

STEP 03
Drawing review & mark-up
Our observations and value-add suggestions, raised clearly for the customer's decision.

STEP 04
Customer approval
Agreed drawing, Quality Assurance Plan and Inspection & Test Plan.

STEP 05
Build & stage inspection
Fabrication to the approved drawing with stage-wise inspections.

STEP 06
Dossier & after-sales support
Material traceability, test reports and records handed over with the equipment — and our engineers on call afterwards for commissioning, spares and modifications.

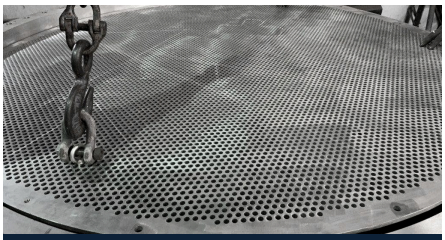
TYPICAL POINTS WE RAISE DURING DRAWING REVIEW

Process & performance
- Heat-transfer area and jacket / limpet / coil layout
- Agitator, baffle and coil interaction
- Sparger and dip-pipe geometry
- Drainability and dead zones

Maintenance & access
- Manhole and handhole size and orientation
- Removable internals and inspection access
- Seal, gearbox and drive serviceability
- Lifting, rigging and handling points

Operability & usability
- Nozzle orientation for piping and instruments
- Sight / light glass and sampling points
- Platform, ladder and operating clearances
- Cleaning, CIP and changeover needs

Safety & life cycle
- MOC compatibility and corrosion allowance
- Relief, vent and drain provisions
- Weld-joint efficiency and NDT scope
- Transport envelope and site erection



ALUMINA AND CHARCOAL BED DRYERS · 2018

≈ ₹1 crore

saved through a design modification we recommended for the Alumina and Charcoal Bed Dryers — acknowledged in the customer's certificate of appreciation.



10 KL HYDROGENATION REACTOR

15% shorter batch time

The customer appreciated our product design for reducing batch time by 15%, alongside product quality, support and timely delivery.

AFTER DISPATCH

Support that does not end at the gate.

Commissioning questions, spares, repairs, re-rating and upgrades — our engineers stay available to customers between projects, and for equipment that did not come from our works.

NB 'R' REPAIRS & ALTERATIONS · SITE SUPPORT · SPARES

Codes. Quality. Compliance.

Nine company certifications and code authorizations, plus PED Module G and ATEX certification obtained per equipment when a project requires it. PESO workshop approval is in progress.

COMPANY CERTIFICATIONS & CODE AUTHORIZATIONS



ISO 9001:2015

TÜV NORD CERT (DAkkS accredited) · Reg. No. 44 100 22393436 · valid to Jan 2028. Design, manufacture and supply of process equipment.



ASME ‘U’ Designator

Certificate of Authorization No. 58149 · manufacture of pressure vessels at shop and field sites · valid to Aug 2028.



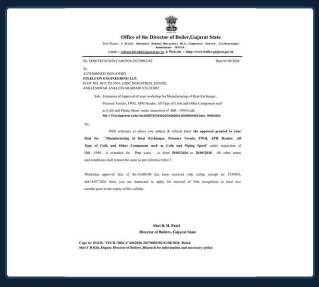
National Board ‘R’

Certificate No. 11212 · metallic repairs and alterations at shop and field locations · valid to Aug 2028.



National Board ‘NB’

Certificate of Authorization to Register pressure-retaining items (validity as per ASME ‘U’ Designator).



IBR 1950

Gujarat Director of Boilers workshop approval — heat exchangers, pressure vessels, FWH, APH headers, coils and piping spools · extended to May 2028.



EN ISO 3834-2

TÜV NORD · comprehensive quality requirements for fusion welding of metallic materials.



AD 2000-Merkblatt HP 0

TÜV NORD · manufacturer of pressure vessels and parts · valid to Mar 2029.



PED 2014/68/EU · Annex I, 3.1

TÜV NORD · manufacture of pressure vessels to AD 2000 HP 0 and EN 13445 · valid to Mar 2029.



PED Module A2 · CE 0045

TÜV NORD (notified body 0045) · process columns and pressure vessels to EN 13445.

ORDER-SPECIFIC CERTIFICATION — OBTAINED PER EQUIPMENT WHEN A PROJECT REQUIRES IT



PED Module G

Unit verification by TÜV NORD · Category IV pressure equipment to EN 13445 — certified per unit, when a project requires it.



ATEX 2014/34/EU

TÜV CY 26 ATEX 0207710 X · TÜV CYPRUS (notified body 2261) · agitated reactor assembly to EN ISO 80079-36/-37 and EN IEC 60079-0 — certified per equipment, when a project requires it.



07 DESIGN & ENGINEERING

Designed to the code — and to the process.

We combine engineering experience with CAD/CAM, 3D modelling and simulation tools to support equipment design, analysis and fabrication.

Mechanical and process design follow the applicable codes, customer specifications and project requirements. Design calculations are prepared and verified in Codeware COMPRESS and Intergraph PV Elite, heat-exchanger thermal design and rating with HTRI, and fabrication drawings, 3D models and CNC programs are produced in AutoCAD and SOLIDWORKS.

We also address the requirements of the Pressure Equipment Directive (PED) 2014/68/EU, CE marking and ATEX, where applicable.

ENGINEERING SOFTWARE

- AUTOCAD LT
- SOLIDWORKS 3D
- SOLIDWORKS CAM
- SOLIDWORKS SIMULATION
- CODEWARE COMPRESS
- INTERGRAPH PV ELITE

DESIGN CODES & STANDARDS

ASME BPVC Sec. VIII
Divisions 1 & 2

EN 13445 · PD 5500
Unfired pressure vessels

TEMA
Classes B, C & R

API 650 · IS 803
Storage tanks

IBR 1950
Indian Boiler Regulations

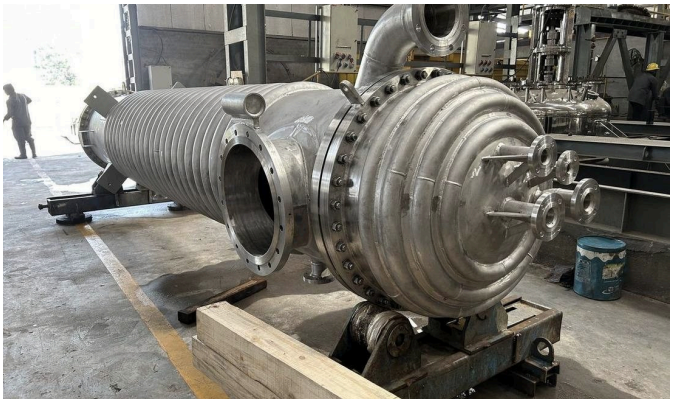
AD 2000
Merkblatt series

IS · DIN · BS
Applicable national standards

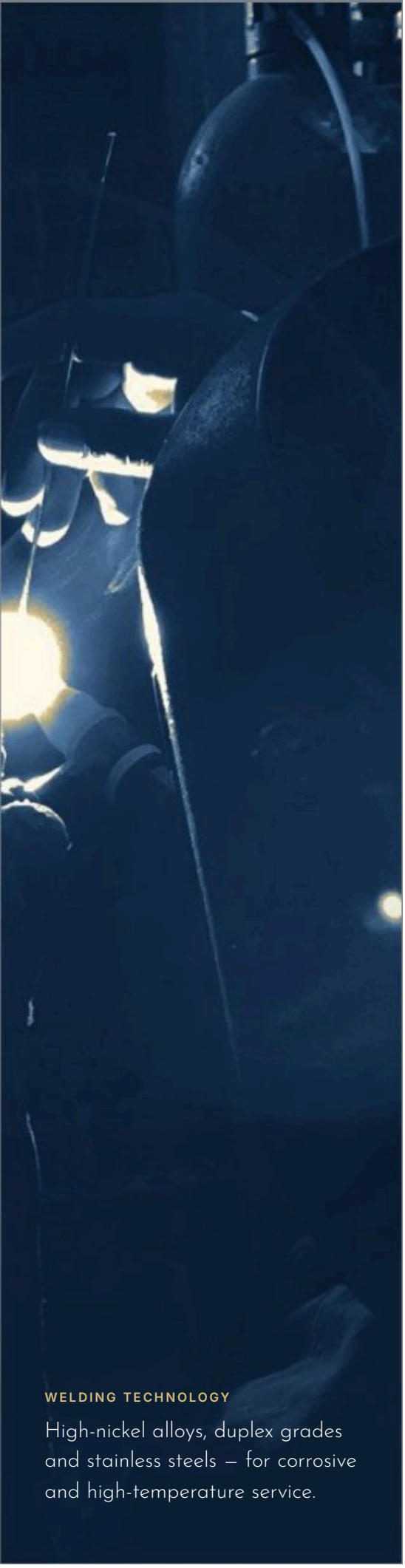
PED 2014/68/EU
CE marking, Modules G & A2

ATEX
EN ISO 80079 · EN IEC 60079

ASME Sec. IX
Welding qualifications







WELDING TECHNOLOGY

High-nickel alloys, duplex grades and stainless steels — for corrosive and high-temperature service.

Workmanship you can measure.

CONSTRUCTION & CRAFTSMANSHIP

Decades of fabrication experience, detailed planning and skilled welders, fitters and riggers enable us to deliver quality equipment while minimizing rework and optimizing production time.

We combine modern manufacturing technology, qualified welding procedures and supporting Procedure Qualification Records (PQRs) with stringent quality checks throughout fabrication to ensure compliance with the approved Quality Assurance Plan and customer requirements.

Our in-house assembly facility supports agitator trials and checks — balancing, air runs, water runs at working pressure, hydrostatic testing and alignment — on a vertical trial bench with a 12 m crane hook height, where several units can be trial-run upright at a time.

WELDING TECHNOLOGY

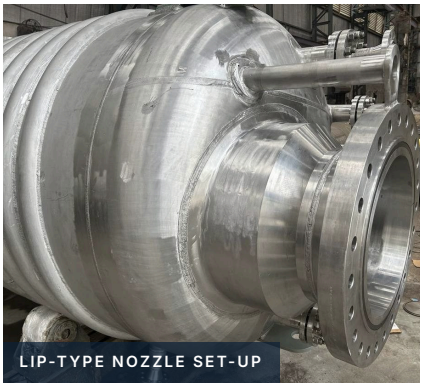
We continually improve our welding practices and personnel skills to incorporate technological advances and meet customer requirements. Welding procedures and welders are qualified to ASME Section IX and applicable project requirements; welding quality controls follow EN ISO 3834-2, supported by documented procedures, qualification records and inspections.

Additional qualification and testing are undertaken where required to meet customer specifications and project-specific acceptance criteria.

GTAW
TIG & pulse-TIG

SAW
Column boom & rotators

SMAW
Qualified to ASME IX



LIP-TYPE NOZZLE SET-UP



SAW COLUMN BOOM

Traceable at every stage.

A standard Quality Assurance Plan for each equipment type — shell & tube exchangers, pressure vessels, reactors, columns, clad vessels, agitator assemblies, storage vessels — sets hold, witness and review points for you and your inspection agency; order-specific requirements are captured in an annexure approved with the QAP.

01 Drawings & procedures
Drawings approved against your specification and the code before cutting; qualified WPS / PQR and welder qualifications (ASME Sec. IX) reviewed in advance.

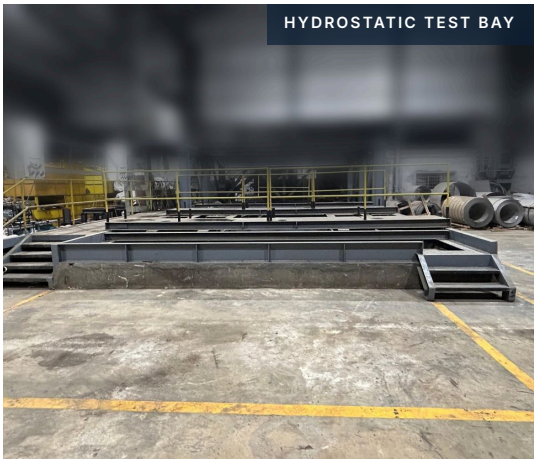
02 Material & bought-outs
Every pressure-retaining and wetted part identified against its MTC / MTR; UT of plates ≥ 20 mm and forgings ≥ 40 mm where applicable; heat numbers transferred before cutting; tubes, forgings, fittings, fasteners, gaskets and consumables correlated with certificates.

03 Forming & cladding
Dished ends checked at knuckle and straight flange with DP on the knuckle; explosion-bonded plates UT-tested to SA-578 S1 Level B with tensile and bond-shear tests to SA-265.

04 Fit-up, welding & stage checks
Seams checked for edge preparation and alignment; DP after back-chipping; radiography per drawing; nozzle inclination held within 0.5°; tube-to-tube-sheet joints DP-tested after the root run; pneumatic checks of pads and tube joints; PWHT where the code requires.

05 Final inspection & testing
Dimensional and visual checks with calibrated instruments; PMI of all non-carbon-steel pressure and wetted parts; hydro tests — shell, tube, jacket, limpet and coil sides — held for one hour; agitators balanced, air-run and water-run at working pressure.

06 Release & dossier
Name plate stamped after review; release note issued once the heat chart is verified against certificates and reports; pickling, passivation, painting and nozzle blanking before dispatch; dossier with approved drawing and QAP, as-built drawing, certificates, heat chart, NDE, dimension and test reports.


HYDROSTATIC TEST BAY

HOLD, WITNESS AND REVIEW

Each QAP stage carries a hold (H), witness (W) or review (R) point for Steelcon and for your inspection agency. If a representative is not available within 48 hours of intimation, the stage is inspected by Steelcon and the records are kept for review.

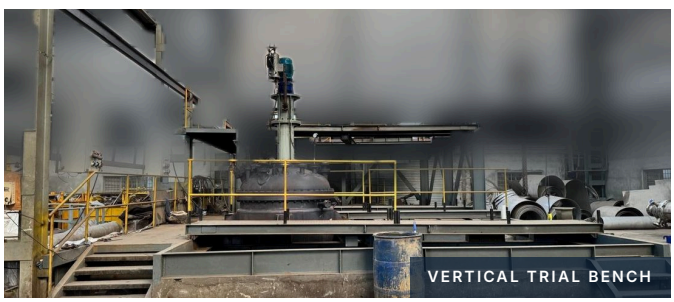
CODES GOVERNING QUALITY PRACTICE

ASME BPVC Sections II, V, VIII and IX, TEMA Classes B, C & R, EN ISO 3834-2, IBR 1950, API 650, IS 803, DIN, EN 13445 and PD 5500 — with PED 2014/68/EU requirements addressed where applicable.

CALIBRATED QA INSTRUMENTS ON SITE

- Thermo Fisher PMI XRF analyzer
- Ultrasonic thickness gauge
- Surface roughness (Ra) tester
- DFT meter
- Densitometer & X-ray viewer
- AGFA Denstep
- Bore gauge & micrometers to 150 mm
- Vernier calipers to 600 mm
- Non-contact digital tachometer
- Digital sound-level & lux meters
- Weld taper & CAM-type master gauges
- Electrode ovens to 400 °C


THIRD-PARTY STAGE INSPECTION


VERTICAL TRIAL BENCH

A self-sufficient works, expanded in 2023.

65,000+ sq ft
Total area across Unit 1 (Plots 5013–5016) and Unit 2 (Plot 5718)

40 t
Electric overhead cranes, plus 7.5 t trolley-mounted rail crane

45 mm
Plate rolling up to 45 mm thick × 2,500 mm wide

12 m
Crane hook height at the vertical trial bench — tall equipment trial-run upright

CUTTING & FORMING

- CNC plasma cutting machine
- Air plasma cutting up to 100 mm
- Hydraulic plate rolling — 2,000 mm × 25 mm (semi-automatic)
- Plate rolling — 2,000 / 2,500 mm × 45 mm and 1,500 mm × 16 mm

MACHINING

- 3-axis CNC vertical machining centre
- Radial drilling machines up to 75 mm
- Lathe machines

WELDING & FABRICATION

- SAW with column boom, rotators and tractor
- TIG-equipped welding rectifiers, 400 A and 600 A
- Pulse TIG for thin sheet · SMAW sets
- Tube expanders for heat exchangers

FINISHING & TESTING

- Grinding, buffing and polishing
- Pickling, passivation and painting
- Hydraulic pressure-test pumps & test bench
- Vertical trial bench — several agitated units trial-run upright at a time under a 12 m crane hook height

VERTICAL TRIAL BENCH

Reactors, hydrogenators, columns and agitated vessels are trial-run in their working (vertical) orientation — several units at a time — under a 12 m crane hook height, so running trials, alignment and hydro tests are done exactly as the equipment will stand at site.


CNC PLASMA CUTTING


3-AXIS CNC VMC


HYDRAULIC PLATE ROLLING


RADIAL DRILLING


GRINDING, BUFFING & POLISHING


VERTICAL TRIAL BENCH — 12 M HOOK HEIGHT

PEOPLE ~25–28 engineering & staff · ~52–55 skilled welders, fitters & machinists · ~28–30 support workers

UTILITY 250 kVA DG set · compressors

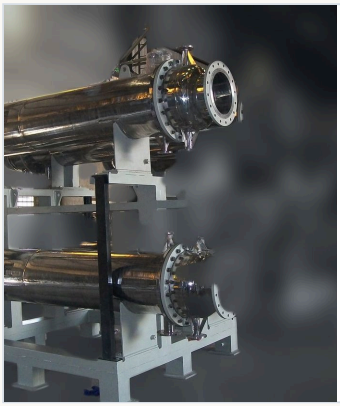
Across the process plant.

We design, manufacture and supply equipment for specific process requirements, with materials and construction selected for the application — grouped here by the solution it delivers.



01 Reaction & pressure equipment

- Reactors — jacketed, limpet-coil and internal-coil
- Hydrogenators & autoclaves
- Pressure vessels, receivers & separators
- Tubular catalytic reactors



02 Heat transfer & separation

- Shell & tube exchangers, condensers & reboilers
- Evaporators and coil exchangers
- Distillation, stripper & absorption columns
- Column internals & regenerators



03 Filtration

- Pressure nutsche filters
- Pressure filters
- Leaf filters
- Pressure-vessel filters



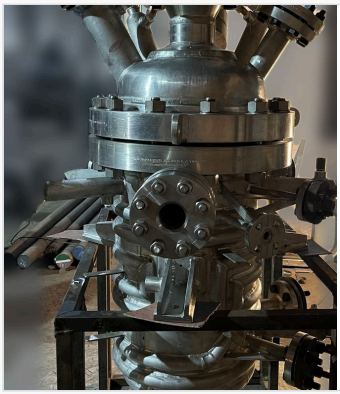
04 Mixing & dispersion

- Agitator assemblies with in-house running trials
- Hydrofoil, PBT, gas-dispersion & cowl-disc impellers
- Anchor and special-purpose impellers
- Mixers, blenders & sand mills



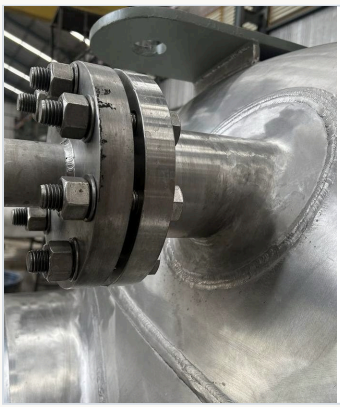
05 Drying & storage

- Rotary vacuum dryers & bed dryers
- Storage tanks to API 650 / IS 803
- M.L. tanks & silos
- Jacketed & limpeted holding vessels



06 Bioprocess & cGMP equipment

- Pre-fermenters & fermenters
- cGMP reaction vessels
- Mirror-polished & electropolished finishes
- Pilot-scale vessels



07 Customized equipment

- Equipment engineered to customer specifications
- Explosion-bonded and lined construction
- Special internals, coils & lip-type nozzles
- Bed-dryer plates & special fabrications

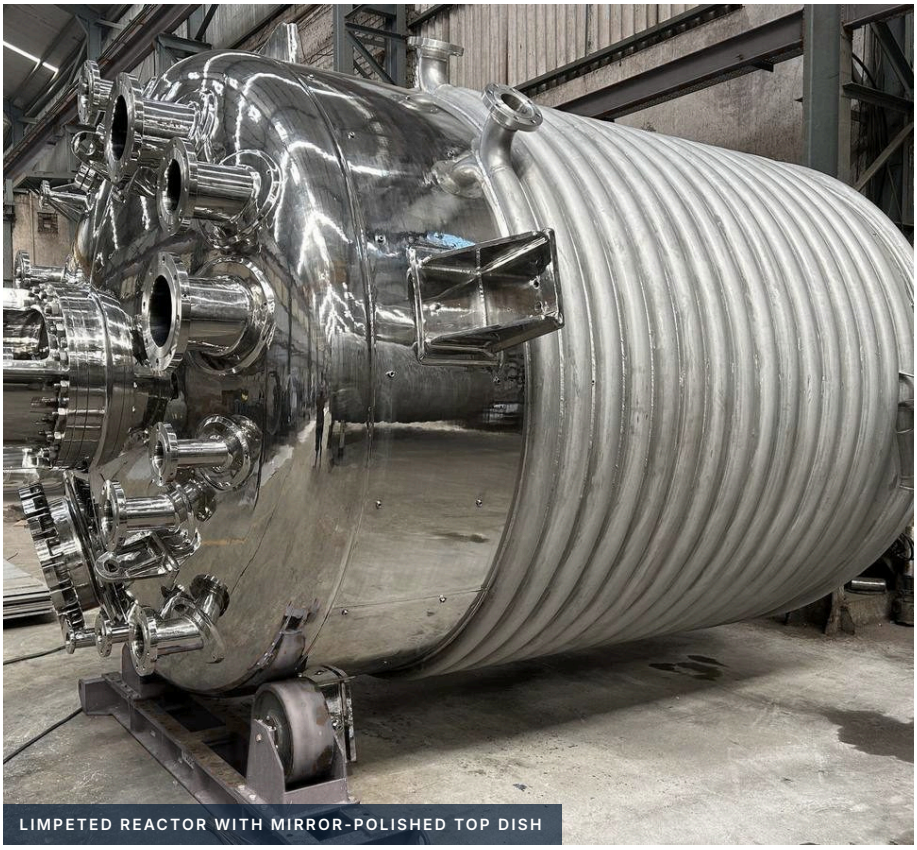
INDUSTRIES WE SERVE

- Chemicals
- Pharmaceuticals & intermediates
- Agrochemicals
- Specialty chemicals
- Petrochemicals
- Energy
- Oil & gas
- Food
- Dyes & pigments
- Paints & adhesives
- Composites
- Water & effluent treatment

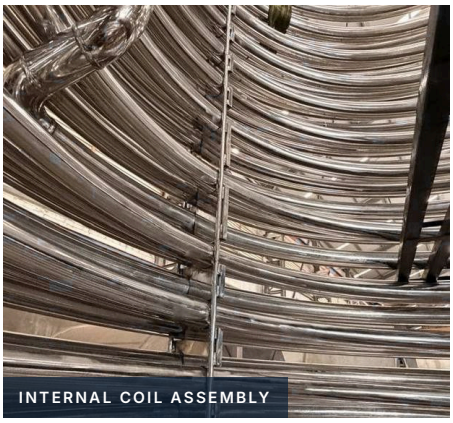
Not on the list? Share your process datasheet — we design and build equipment around your process, materials and code requirements.

Built in Ankleshwar.

A selection of equipment and assemblies from Steelcon's workshop. Configurations vary by project.


LIMPETED REACTOR WITH MIRROR-POLISHED TOP DISH


HYDROGENATOR READY FOR DISPATCH


INTERNAL COIL ASSEMBLY


SHELL & TUBE HEAT EXCHANGERS


PRESSURE NUTSCHE FILTERS


COLUMN INTERNALS — CHAIN BAFFLES


HYDROFOIL


AUTOCLAVE


REGENERATOR COLUMN

Where the metallurgy gets difficult, we excel.

Our experience in material selection, fabrication and welding lets us take on equipment for corrosive media, elevated temperatures and cryogenic duty — in solid alloy or explosion-bonded clad construction.

SOME OF THE MATERIALS WE WORK WITH REGULARLY

C-276 Hastelloy® C-276	**C-22** Hastelloy® C-22	**C-2000** Hastelloy® C-2000	**600** Inconel® 600	**825** Incoloy®	**400** Monel®	**Ni** Nickel 200/201
A20 Alloy 20	**S28** Sanicro® 28	**254** 254 SMO® (6Mo)	**904L** Super-austenitic	**316Ti** Stabilised SS	**321** Stabilised SS	**316L** Stainless steel
304L Stainless steel	**DPX** Duplex 2205	**SDX** Super-duplex	**HDX** Hyper-duplex	**LAS** Low-alloy steels	**CS** Carbon steel	**+ many more** related & equivalent grades

Nickel alloys · Duplex family · Stainless & super-austenitic steels · Carbon & low-alloy steels

A representative selection of the materials we work with regularly. We have fabricated many more related and equivalent grades across these families — tell us your specification.

SPECIALIZED & SUBCONTRACTED PROCESSES

- Metallic explosion bonding (clad)
- PFA / Halar lining & coating
- PTFE lining
- Lead bonding
- FRP lining
- Rubber lining
- Grit / glass-bead blasting
- Electropolishing



OUTSIDE VERTICAL COILS



MIRROR-FINISH COILS

EXOTIC-ALLOY REFERENCES

Cryogenic reactor	6 KL, SS 304 + Alloy C-2000 explosion-bonded
Reactor body	20 KL, SS 304 + Alloy C-22 explosion-bonded
Hydrogenator	10 KL, SS 304L + Alloy C-276 explosion-bonded
Gas-phase reactors	FMO gas-phase and catalyst reactors in Inconel 600
Process vessel	40 KL, super-austenitic SS 904L
Heat exchanger	18.5 m², explosion-bonded C-2000 clad
Exchangers and columns	Duplex shell and tube exchangers to 178 m²; Inconel 600 / SS 316L distillation columns

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Hydrogenator masters.

H_2 SPECIALISTS

High-pressure hydrogenators, gas-induction reactors and autoclaves are among our most demanding — and most repeated — builds, for India's leading pharmaceutical, agrochemical and specialty-chemical producers.

20 m^3
limpeted hydrogenators

70 kg/cm^2g
high-pressure hydrogenator

C-276
explosion-bonded clad hydrogenator

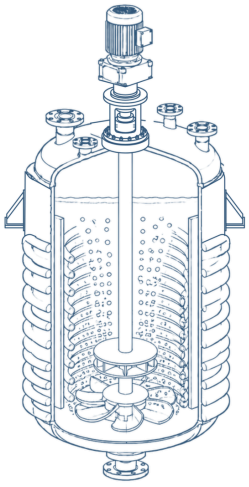
−35 °C
to 280 °C design temperatures handled

OUR RECORD SO FAR — AND GROWING

CAPACITIES	From pilot-scale 200 L units to 20 m^3 production hydrogenators
DESIGN PRESSURES	Full vacuum to 70 kg/cm^2g
DESIGN TEMPERATURES	Cryogenic −35 °C to 280 °C
MATERIALS	SS 316L, 316Ti, 304L, 904L, CS and Alloy C-276 explosion-bonded
SEALING	Double mechanical seal or sealless magnetic drive
CONFIGURATIONS	Limpet, jacketed and internal-coil; gas-induction; cGMP / GMP; ASME 'U' autoclaves

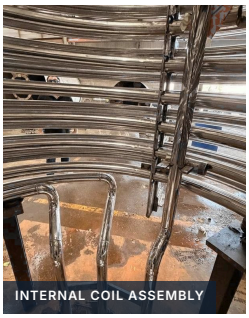
Indicative of equipment already supplied, not a limit. Larger volumes, higher pressures and other configurations are engineered to suit your process.

IN SECTION · ILLUSTRATION



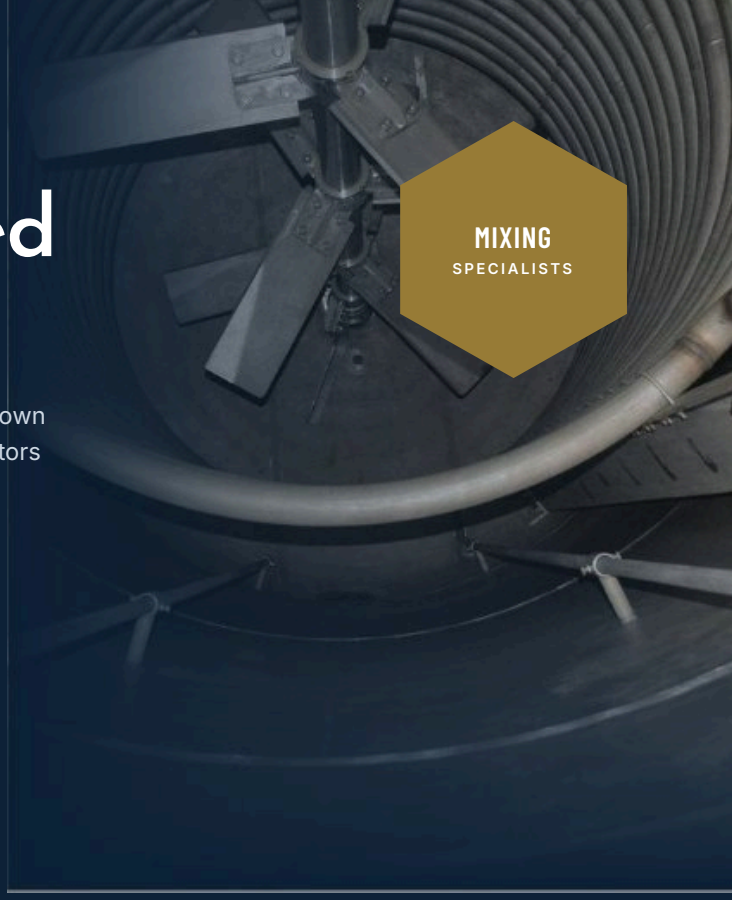
REFERENCES

Repeat orders from India's leading pharmaceutical, agrochemical and specialty-chemical producers. Detailed hydrogenator references are available on request.


INTERNAL COIL ASSEMBLY


GAS-DISPERSION IMPELLER

Agitation engineered for the duty.



Agitator assemblies and impellers are a Steelcon speciality in their own right — designed from the process duty, built in the alloys our reactors are made of, and trial-run on our own benches before they leave Ankleshwar. We supply them with new vessels, as stand-alone assemblies, or as upgrades to equipment already in service.

150 HP
Largest agitator drive; several 75 HP assemblies also supplied

90 kL
Largest agitated equipment — a reactor

20 kL
Reactor agitator systems — 10, 12, 15 and 20 kL

60 kL
Agitated storage tank

01
Process-duty sizing
Impeller type, diameter, speed and power selected for the job it has to do — blending, solids suspension, gas dispersion, heat transfer or high-shear dispersion — from your process data, or together with your process licensor.

02
Mechanical design
Shaft, hub and blade design checked for critical speed, deflection and bending; bearing housings, couplings, gearbox and motor matched to the vessel, the seal and the site conditions.

03
Sealing & drive options
Single or double mechanical seals with seal-support systems, stuffing boxes or sealless magnetic-drive couplings; FLP motors and ATEX-compliant agitated reactor assemblies to EN ISO 80079-36/-37.

04
Retrofit & upgrades
New impellers, drives or seals for agitators already in service — reviewed from your drawings and operating data to raise throughput or cut power and batch time, as with a reactor design a customer recognized for a 15% shorter batch.

05
Customized solutions
Where a standard pattern will not do: special-purpose and multi-stage impellers, side- and bottom-entry assemblies, cGMP and mirror-polished wetted parts, and alloys to suit the process.

06
Trial-run before dispatch
Every assembly is static and dynamically balanced, air-run and then run with the vessel full of water at working pressure on our vertical trial bench (12 m hook height) — rpm, amps, runout, vibration, noise and bearing / seal temperatures recorded in the dossier.

Figures are references from equipment already supplied, not limits — larger drives, vessels and special configurations are engineered to suit each project.

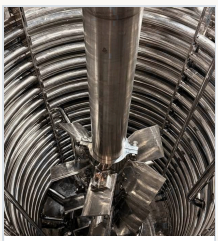
Impellers for every flow pattern.

The impeller families we design and build — each made in the alloy of the vessel and trial-run before dispatch.



Hydrofoil

Axial flow, low shear — blending and solids suspension at low power



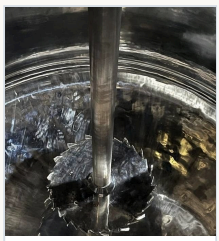
Pitched-blade turbine

Mixed axial / radial flow for general-purpose reaction duties



Gas-dispersion impeller

Radial, high gas hold-up — hydrogenators and gas-induction reactors



Cowl-disc disperser

High-shear dispersion for pigments, inks, paints and adhesives



Pipe anchor

Close-clearance sweep for viscous products and wall heat transfer



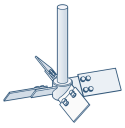
Special-purpose impeller

Designed around the duty when a standard pattern will not do

IMPELLER TYPES AT A GLANCE



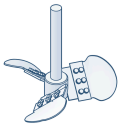
Hydrofoil



Pitched-blade turbine



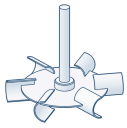
Marine propeller



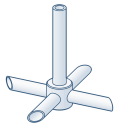
Viscous-duty hydrofoil



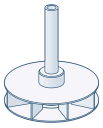
Flat-blade disc turbine



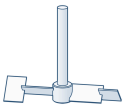
Concave-blade disc turbine



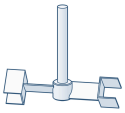
Gas-induction, pipe type



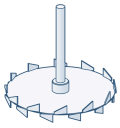
Gas-induction, turbine type



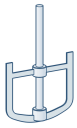
Counter-flow, plate ends



Counter-flow, channel ends



Cowl-disc disperser



Anchor



Helical ribbon

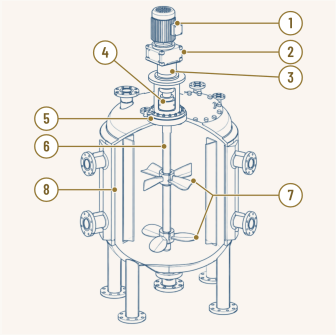


Retreat-curve impeller

These are some of the conventional impellers we manufacture. We also design and manufacture other types to suit the process and the project requirement. *These are generic descriptions of the impeller families we design and build — including the counter-flow multi-stage, viscous-duty hydrofoil, helical-ribbon and curved-blade types often known by their makers' trade names. Tell us the duty and we will propose the design.*

CONFIGURATIONS WE BUILD

ENTRY & MOUNTING	Top, side or bottom entry · centre-line or offset · baffled or unbaffled vessels
FLOW PATTERN	Axial, radial, tangential and close-clearance designs · single or multi-stage shafts
DRIVES	FLP / non-FLP motors, flange- or foot-mounted · inline, parallel or right-angle gearboxes
SEALING	Single or double mechanical seal, stuffing box or sealless magnetic-drive coupling
MATERIALS	SS 304 / 316L / 904L, duplex grades, Hastelloy® C-276 and other alloys — solid, clad, mirror-polished or electropolished



ANATOMY OF AN ASSEMBLY

1. Motor
2. Gearbox
3. Bearing housing & coupling
4. Shaft seal
5. Entry & mounting flange
6. Shaft
7. Impellers
8. Baffles

Illustration, not to scale

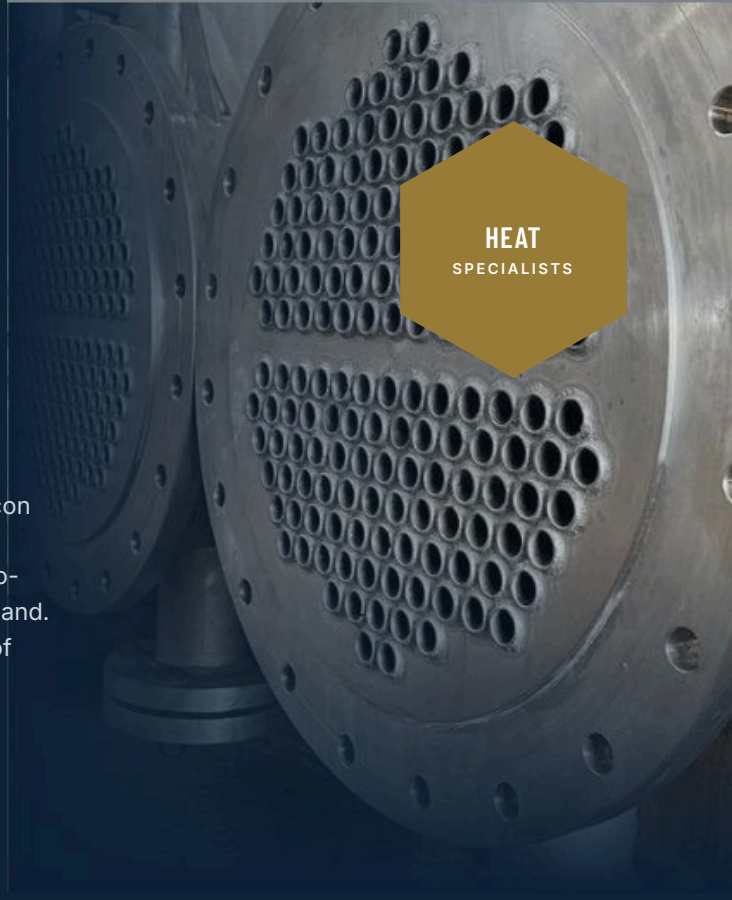


TRIAL-RUN BEFORE DISPATCH · 12 M HOOK HEIGHT

- Static & dynamic balancing
- Air run — runout, vibration, noise, sweep, verticality
- Water run at working pressure — rpm, amps, temperatures
- Hydrostatic testing
- Alignment & seal checks

Heat transfer, engineered end to end.

Shell & tube heat exchangers of every TEMA type are a core Steelcon product — thermally designed and rated with HTRI, mechanically designed to TEMA and ASME Section VIII, and built with the tube-to-tube-sheet, expansion and testing disciplines that exchangers demand. From a single condenser to multi-tubular reactors with thousands of tubes, in carbon steel, stainless, duplex, nickel alloys or clad construction.



~1,000 m²
Largest exchanger

8,800 tubes
3.5 m diameter multi-tubular reactor

178 m²
Duplex exchangers (14 to 178 m² series)

18.5 m²
Explosion-bonded C-2000 clad exchanger

01
Thermal design & rating
Thermal design and rating with HTRI for single-phase, condensing and boiling duties — pressure drop, vibration and fouling checks included — from your process data or your licensor's datasheet.

02
Mechanical design
TEMA Classes B, C and R and ASME Section VIII; tube-sheets, flanges, expansion joints and supports calculated and verified in PV Elite and COMPRESS; nozzle loads and transport checked.

03
Materials
Carbon and low-alloy steels, stainless, duplex and super-duplex, Inconel, Hastelloy and other nickel alloys; explosion-bonded clad tube-sheets and channels; plain, corrugated or finned tubes.

04
Fabrication
Tube-to-tube-sheet joints strength- or seal-welded and expanded with in-house expanders; U-bends heat-treated after trials on samples for each radius; baffle cages, tie-rods and impingement plates built to drawing.

05
Testing & documentation
Shell-side and tube-side hydro tests held for one hour; pneumatic checks before expansion; PMI on all non-carbon-steel parts; IBR-approved for exchangers; full dossier with the equipment.

06
Exchangers in service
Re-tubing, bundle replacement, tube plugging, re-rating and repairs under our National Board 'R' certificate — for exchangers from our works or from elsewhere.

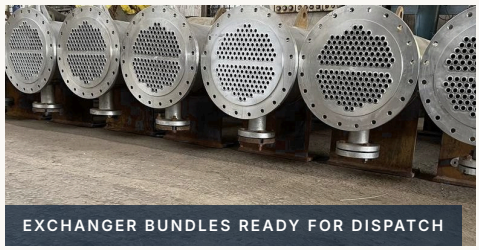
Figures are references from exchangers already supplied, not limits — larger areas, higher pressures and other configurations are engineered to suit each project.

Every TEMA type, built to the tube.

Thermal design and rating with HTRI; mechanical design to TEMA and ASME; tube-to-tube-sheet work done in-house.

TYPES WE BUILD

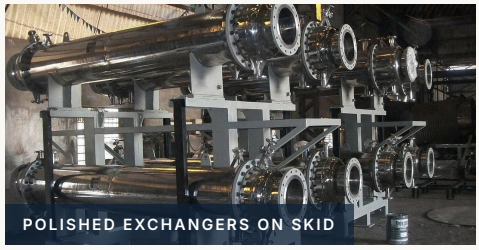
FIXED TUBE-SHEET	BEM / NEN — with expansion joints where the design needs them
U-TUBE	BEU / AEU — removable bundles for high-pressure and clean tube-side fluids
FLOATING HEAD	AES / BES / AET — pull-through and split-ring designs for fouling services
KETTLE REBOILERS	AKT / BKU — vapour disengagement space and weir designed for the duty
CONDENSERS & REBOILERS	Vertical and horizontal condensers, vent condensers, thermosyphon and forced-circulation reboilers
EVAPORATOR CALANDRIAS	Multiple-effect evaporator calandrias and column-mounted exchangers
MULTI-TUBULAR REACTORS	Formaldehyde and catalytic tubular reactors — to 3.5 m diameter and 8,800 tubes
DOUBLE-PIPE & COIL	Double-pipe and hairpin exchangers; internal, limpet and outside coils



EXCHANGER BUNDLES READY FOR DISPATCH



COLUMN WITH BUILT-IN EXCHANGER



POLISHED EXCHANGERS ON SKID

CONFIGURATIONS

TEMA DESIGNATION	Front heads A, B, C, N, D · shells E, F, G, H, J, K, X · rear heads L, M, N, P, S, T, U, W
TUBES	Plain, corrugated or finned · triangular, rotated-triangular, square or rotated-square pitch · one to multiple passes
BAFFLES	Single-, double- and triple-segmental and disc-and-doughnut baffles
EXPANSION JOINTS	Thin-wall bellows (plain or reinforced), flexible shell elements, toroidal bellows
CODES & CLASSES	ASME Section VIII Div. 1 and 2, PED, IBR 1950; TEMA Classes B, C and R; stamping where required

REFERENCE EXCHANGERS

Largest exchanger	Shell & tube heat exchanger of about 1,000 m²
Duplex series	Duplex exchangers — 13.5, 45.8, 84.7, 104.5, 174.5 and 177.5 m²
Inconel 600	Exchangers and gas-phase reactors in Inconel 600
Explosion-bonded clad	18.5 m² SS 304 + C-2000 exchanger
MEE calandria	Duplex second-effect calandria, 30 m²
Condensers	Duplex U-tube condenser, 11.7 m²; CS / SS 316L horizontal exchangers
Multi-tubular reactors	3.5 m diameter, 8,800 tubes
Columns	Jacketed regenerator and recovery columns with built-in heat-transfer sections

WHAT TO TELL US ABOUT YOUR DUTY

The duty

Fluids on each side, flow rates, inlet and outlet temperatures, allowable pressure drops, fouling factors — or simply the process datasheet.

Design data

Design and operating pressure and temperature for each side, TEMA class, construction code and stamping requirement.

The geometry

TEMA type, tube OD and count if known, tube type and pitch, baffle type, shell ID and tube length — or leave the geometry to us.

Materials & finish

Shell-side, tube-side, tube and tube-sheet materials; radiography scope; surface finish — or the fluids, and we will propose them.

Figures are references from exchangers already supplied, not limits — larger areas, higher pressures and other configurations are engineered to suit each project.

Proven references.
Room to go further.

Reference points from equipment already delivered — not the limits of our capability. Larger, thicker and higher-pressure equipment is engineered to suit each project.

45 mm
Heavy-wall shell thickness
Reactors and autoclaves in heavy-wall construction

~215 bar
Highest design pressure
High-pressure vessel

156 kL
Largest pressure vessel / tank
Limpeted vessel

90 kL
Largest reactor body (gross)
Agitated reactor

5.0 m ID
Largest diameter
156 kL limpeted vessel, 5,000 mm ID · plus a 3.5 m Ø, 8,800-tube reactor

27.8 m
Longest single segment
Distillation column · plus regenerator and jacketed reactor columns

~1,000 m²
Largest heat exchanger
Shell & tube heat exchanger

150 HP
Largest agitator drive
Agitator assembly



OTHER SPECIALIST EXPERIENCE

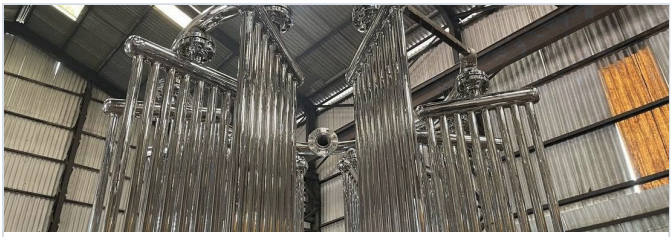
- Explosion-bonded clad equipment
- Cryogenic-service reactors
- cGMP & mirror-finish vessels
- Formaldehyde tubular reactors
- Gas-induction hydrogenators
- Magnetic-drive agitation
- ASME ‘U’-stamped vessels
- PED & ATEX-compliant equipment
- Column internals & chain baffles
- Lip-type & SR nozzles
- Limpet, jacket & internal coils
- Agitator running trials

Detailed reference lists by equipment type, material and industry are available on request.



20 PROJECT EXAMPLES

A few examples of what we build.



Exotic & clad metallurgy

Cryogenic reactor
SS 304 + Alloy C-2000 explosion-bonded clad

Reactor body and column
SS 304 + Alloy C-22 explosion-bonded clad

Gas-phase and catalyst reactors
FMO duty, in Inconel 600

Process vessel
Super-austenitic SS 904L



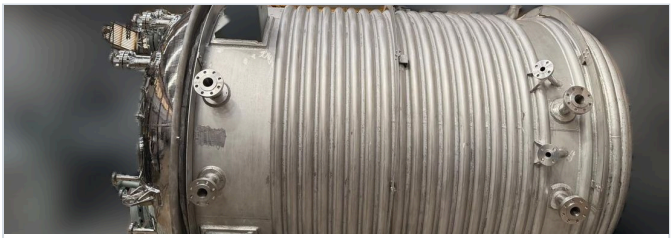
Hydrogenation & high pressure

Limpeted hydrogenators
16 & 20 m^3

High-pressure hydrogenator
70 kg/cm^2g design pressure

Hydrogenation reactor
10 KL, Alloy C-276 explosion-bonded

High-pressure vessel
~215 bar design pressure



Large & heavy equipment

Limpeted vessel
156 kL, 5,000 mm ID

Reactor body
90 kL gross

Agitated storage tank
60 KL

Limpeted reactor
32 KL with 75 HP agitator



Columns, reactors & heat transfer

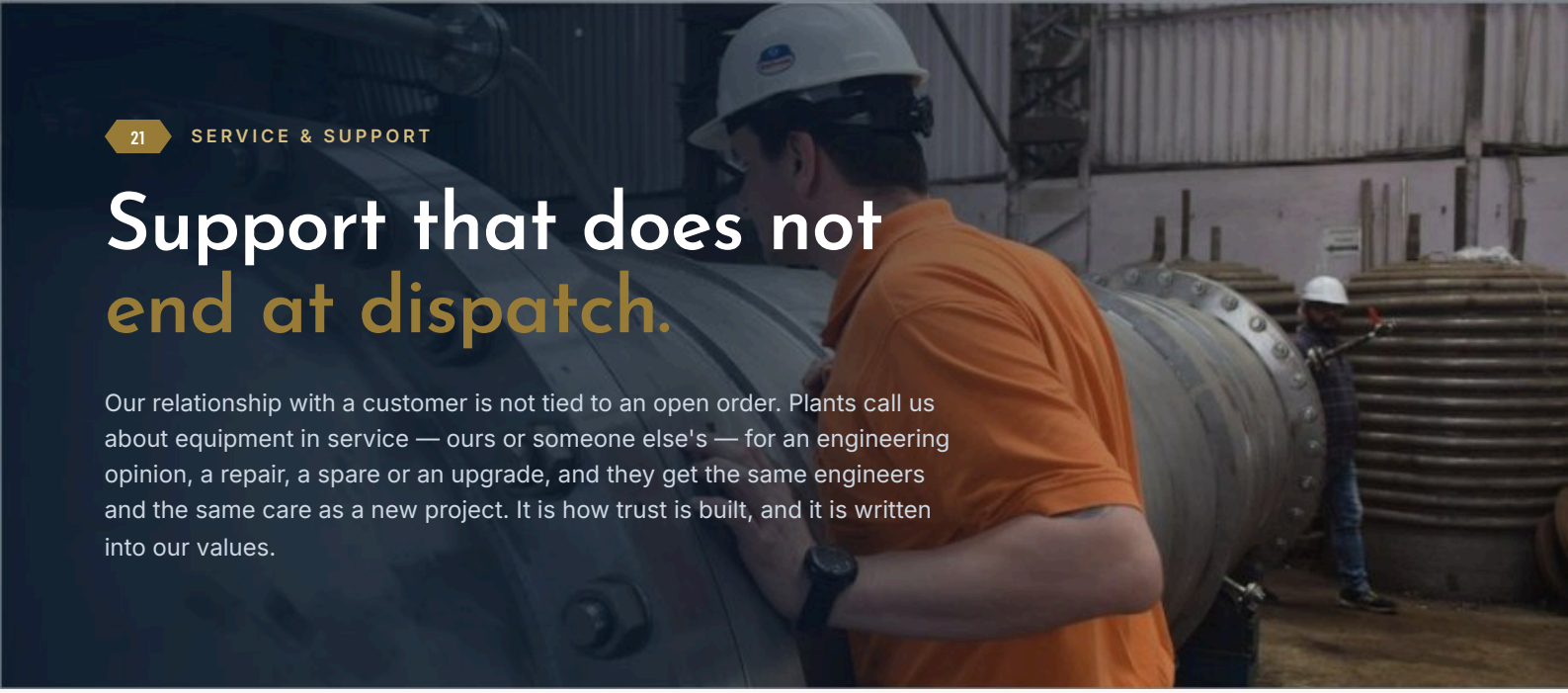
Formaldehyde tubular reactor
Ø 3.5 m with 8,800 tubes

Distillation column
27.8 m in a single segment

Regenerator and reactor columns
Jacketed construction

Shell & tube heat exchanger
~1,000 m^2

A few examples from a much wider reference list spanning reactors, columns, heat exchangers, filters, agitators and custom equipment — detailed references available on request.



21 SERVICE & SUPPORT

Support that does not end at dispatch.

Our relationship with a customer is not tied to an open order. Plants call us about equipment in service — ours or someone else's — for an engineering opinion, a repair, a spare or an upgrade, and they get the same engineers and the same care as a new project. It is how trust is built, and it is written into our values.

01
Engineering support on call
Questions on operation, maintenance, re-rating or modification of equipment in service — whether it came from our works or elsewhere.

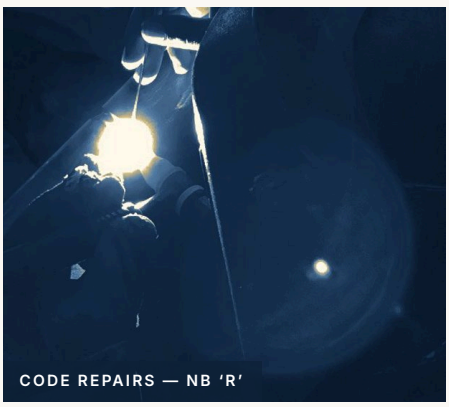
02
Site services
Installation and commissioning support, alignment, trial runs and start-up assistance by the people who built the equipment.

03
Repairs & alterations
Code repairs and alterations under our National Board 'R' certificate at shop or field; re-tubing, re-lining, nozzle additions and re-rating with documentation.

04
Upgrades & retrofits
Agitators, impellers, seals, internals and heat-transfer surfaces re-designed from operating data to improve throughput, batch time or energy use.

05
Spares & consumables
Gaskets, seals, impellers, tube bundles and internals supplied against the original drawings — or reverse-engineered where drawings are missing.

06
Inspection & documentation support
Assistance during statutory, insurance and customer inspections; hydro-test support; re-issue of dossiers and drawings.


CODE REPAIRS — NB 'R'


TRIAL RUNS & ALIGNMENT

WRITTEN INTO OUR VALUES

Trust & Reliance — relationships founded on consistency, dependability and support that continues long after delivery.

ASK FOR RAJESH KALRA, AKSHAY KALRA OR ASHISH MALHOTRA

Support is scoped with you case by case; nothing above commits either side beyond what is agreed for each call.

Trusted by leading process industries.

Repeat orders from India's leading chemical, pharmaceutical, agrochemical and specialty-chemical producers — and from multinational manufacturers operating in India.

TOYOINK Visible Science for Life
Inspired by Science
SRF
BASF The Chemical Company
INDIA GLYCOLS LIMITED
SOLVAY
JUBILANT INGREVIA
Gulbrandsen
Glenmark A new way for a new world
SAJJAN INDIA LIMITED
LANXESS Energizing Chemistry
Piramal Pharma Solutions
SDI S. D. INTERMEDIATES
SÜD-CHEMIE
CREST
RALLIS INDIA LIMITED A TATA Enterprise
TEVA
dishman
DrM
Pfizer
GHARDA CHEMICALS LIMITED
TATVACHINTAN
Atul
UPL
SUN PHARMA
WANBURY Towards Better Healthcare
APAR
Zydus dedicated to life
CADILA PHARMACEUTICALS LIMITED
INTAS
WOCKHARDT
MOL
asianpaints
WESTERN DRUGS LTD.
covestro
FINERCHEM BREATHING CHEMISTRY
Deepak Nitrite Limited
Vardhmān
DyStar
German Remedies Div of Cadila Healthcare Ltd
heubach COMPETENCE IN COLOR
ADITYA BIRLA HINDALCO
HUNTSMAN Enriching lives through innovation
DCM SHRIRAM Growing with trust
Pidilite
LUPIN
Coromandel

...and many more.

INDUSTRIES WE SERVE

- Chemicals
- Pharmaceuticals & intermediates
- Agrochemicals
- Specialty chemicals
- Petrochemicals
- Energy
- Oil & gas
- Food
- Dyes & pigments
- Paints & adhesives
- Composites
- Water & effluent treatment

Customer names and marks remain the property of their respective owners.

Licensors, consultants, EPCs & inspection bodies.

Steelcon Engineering LLP engages with licensors, engineering consultants, EPC companies, inspection agencies, certification bodies and technical service organizations across its business development and project activities — with documentation and stage inspections planned around their requirements. A representative selection is presented here.

LICENSORS, ENGINEERING CONSULTANTS AND EPC COMPANIES

- Ameya Engineers
- Arya Engineers & Contractors Pvt. Ltd.
- Ascent Total Solution Pvt. Ltd.
- Becht Engineering Co., Inc.
- Bertrams Chemical Plants Ltd.
- Bhavi Engineers and Consultants
- Cameron
- Chemin Projects
- ChemSOL Engineers
- Coenz Group
- Dynamic Energy Solution Pvt. Ltd.
- Electro-mech Engineering Enterprises
- Gusto Total Solutions Pvt. Ltd.
- Innovision Industries Pvt. Ltd.
- IPS-Mehtalia Pvt. Ltd.
- Kasco Chemtech
- Knexir Consultants Pvt. Ltd.
- Marvell Design & Projects Pvt. Ltd.
- MN Engineering Solutions, Inc.
- Mott MacDonald Pvt. Ltd.
- Pharma Plan
- Pipe Con Consultants
- Projectplus Consultants LLP
- PTC Tech
- Shapoorji Pallonji and Company Pvt. Ltd.
- Shiva Engineering Services
- Shroff Engineering Consultants
- Signate Engineers
- SMPS Consultants LLP
- Source 360 SCM Services
- Sterling & Wilson Pvt. Ltd.
- Synergies Tech
- Tata Consulting Engineers Ltd.
- Technip Energies
- ThyssenKrupp Uhde India Pvt. Ltd.
- Toyo Engineering India Pvt. Ltd.
- Truetech Vision Industry Pvt. Ltd.
- Worley India Pvt. Ltd.
- Zeppelin Systems (I) Pvt. Ltd.

INSPECTION, CERTIFICATION AND TECHNICAL SERVICES

- Bureau Veritas (India) Pvt. Ltd.
- Chempro Inspections Pvt. Ltd.
- Danem Group
- Deutsch Quality Systems (India) Pvt. Ltd.
- DNV AS
- Electro-mech Engineering Enterprises
- The ERM International Group Ltd.
- HSB International (India) Pvt. Ltd.
- Industrial Inspection Agency
- Industrial Inspection Bureau
- Intertek India Pvt. Ltd.
- ISSPL Ltd.
- Lloyd's Register Asia
- Lloyd's Register Marine and Inspection Services India LLP
- LRQA Inspection Services India LLP
- Quest Associates
- SGS India Pvt. Ltd.
- Swiss Approval International
- Techcellent Quality Solutions Pvt. Ltd.
- TUV India Pvt. Ltd.
- TÜV Rheinland (India) Pvt. Ltd.
- TÜV SÜD South Asia Pvt. Ltd.
- "V" Design Inspection Services
- Worley India Pvt. Ltd.



The nature and scope of professional interaction vary by organization and project. Names are those of the respective organizations.

Recognized by our customers.

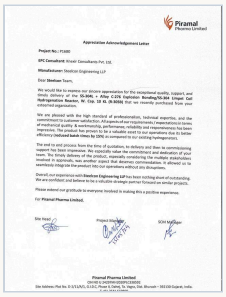




PI INDUSTRIES LIMITED

Business Partner of the Year 2025

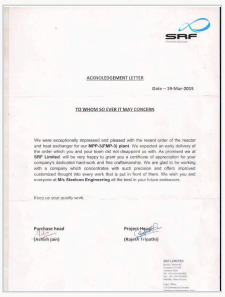
Presented on 24 January 2025 at PI Industries' Annual Global Partners' Meet.



PIRAMAL PHARMA LIMITED

Certificate of Appreciation

For product quality, support and timely delivery of the hydrogenation reactor — and a design that reduced batch time by 15%.



SRF LIMITED · 18 JUL 2022

Certificate of Appreciation

For quality of work and resonant support on the TFE-PTFE project.



SRF LIMITED · 30 AUG 2018

Certificate of Appreciation

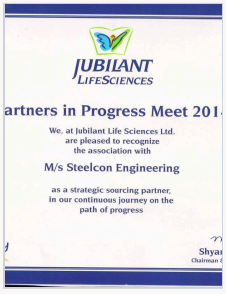
For saving about ₹1 crore by recommending a design modification to the Alumina Bed Dryer and Charcoal Bed Dryer for the P-35 plant.



SRF LIMITED · 19 MAR 2015

Certificate of Appreciation

For timely, high-quality delivery of a reactor and heat exchanger for the MPP-3 (FMP-3) plant.



JUBILANT LIFE SCIENCES

Partners in Progress

Recognized as a strategic partner in consecutive years.



Message from the Managing Partner

"Our customers' continued trust and repeat orders remain central to our success."

Steelcon Engineering LLP is a financially sound, debt-free organization with a track record of sustained growth. With a target turnover of INR 75 crore by FY 2030, we completed a strategic facility and capacity expansion in 2023 to support our long-term growth objectives.

Our customers' continued trust and repeat orders remain central to our success and have strengthened our position in process equipment manufacturing. Quality workmanship, rigorous quality assurance, timely delivery and regular progress updates underpin our commitment to dependable project execution.

We welcome you to visit our manufacturing facilities by prior arrangement. Our team will be pleased to discuss your requirements and provide any further information you may need.

Thank you for your continued trust in Steelcon Engineering LLP. We remain committed to delivering reliable equipment, responsive service and lasting value.

FOR STEELCON ENGINEERING LLP

Rajesh Kalra
Founder & Managing Partner

Debt-free

Financially sound organization with sustained growth

2023

Strategic facility & capacity expansion completed

₹75 cr

Target turnover by FY 2030

PARTNERS

Rajesh Kalra
Founder & Managing Partner

Akshay Kalra
Executive Partner

Anju Kalra
Partner

Akanksha Kalra
Partner

MANAGEMENT TEAM

Ashish Malhotra
Operations Head

Milan Rabadiya
QA/QC Head

Pooja Kalra
Finance Head

Rahul Kalra
Accounting Lead

LEADERSHIP TEAM



Rajesh Kalra

FOUNDER & MANAGING PARTNER

Founded Steelcon in 1990 and has led it ever since, building it from a small workshop into an established designer and manufacturer of process equipment.



Akshay Kalra

EXECUTIVE PARTNER

Second generation at Steelcon. Leads business development, design, and compliance and certifications. B.Tech, VIT Vellore; M.S. Industrial Engineering, Purdue University, USA. ASME member since 2022.



Ashish Malhotra

OPERATIONS HEAD

With Steelcon since its first day in 1990. Oversees all operations, from planning and execution to the on-time completion of complex projects.

Steelcon Engineering LLP
Eminent Standards.

START A TECHNICAL DISCUSSION

Let's engineer your next process equipment.

Share your process datasheets or drawings, required capacity, materials of construction, operating and design conditions, applicable codes, inspection requirements and the intended delivery schedule — our engineering team will respond with a reviewed technical-commercial proposal.

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FOUNDER & MANAGING PARTNER	Rajesh Kalra
EXECUTIVE PARTNER	Akshay Kalra
OPERATIONS HEAD	Ashish Malhotra

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www.steelcon.engineering

Workshop visits welcome by prior arrangement.