

Safety & Quality:
Our Tradition, Our Priority
Since 1982



About Kanooz

Trusted Partner in Industrial Services

Kanooz is a premier industrial services provider specializing in Mechanical Maintenance, Chemical Cleaning, Catalyst Replacement, and Tank Maintenance. With decades of experience, we have successfully executed several shutdowns, turnarounds, and maintenance projects for leading refineries, petrochemical, mining plants, and industrial facilities.

At Kanooz, safety is not just a priority; it is our tradition. We are committed to delivering high-quality, safe, and efficient solutions to meet the dynamic needs of the industry. Our skilled workforce, cutting-edge technology, and adherence to international safety standards make us the trusted partner for critical maintenance and turnaround services.



MISSION

To deliver world-class industrial services with an unwavering commitment to safety, quality, and innovation, ensuring operational excellence for our clients.



VISION

To be the leading service provider of industrial maintenance and turnaround solutions in the region, setting new benchmarks in safety, quality, efficiency, and reliability.



59,774,168

MAN-HOURS FROM JANUARY 1, 2008
TO JULY 29, 2026 WITHOUT LTI

LIST OF INDUSTRIAL SERVICES

SPECIALISED MAINTENANCE SERVICES

TURNAROUND SERVICES
MICRO BLASTING & NANO COATING
DECOKING & SMART PIGGING
AUTOMATIC TANK CLEANING SYSTEM (ATC)
CATALYST REPLACEMENT & REACTOR REPAIRS
DECONTAMINATION SERVICE
CRYSTAL CLEANING FOR AIR FIN COOLERS
INDUSTRIAL CHEMICAL CLEANING
FLARE TIP MAINTENANCE
PIPELINE PIGGING & SCRAPPING
HEAT EXCHANGER MAINTENANCE
HEAT EXCHANGER RETUBING
COLUMNS & VESSELS MAINTENANCE
HYDROJETTING & HYDROMILLING
LUBE OIL FLUSHING, FILTRATION & DEHYDRATION
NITROGEN SERVICES, DRYING, PURGING & COOLING
HEAVY EQUIPMENT REPLACEMENTS & RIGGING
TANK MAINTENANCE
TANK FABRICATION & ERECTION
BLASTING & PAINTING
PIPELINE FABRICATION & ERECTION
WASTE MANAGEMENT SERVICE
DRY BULK & WET VACUUMING, SUPERSUCKERS
DIVING & UNDERWATER MAINTENANCE
HIGH VOLUME DEWATERING
HYDRAULIC BOLT TORQUEING SERVICES
DRY ICE BLASTING
MFC & UT INSPECTION OF PIPELINE

PRE-COMMISSIONING SERVICES

FRESH CATALYST LOADING
CHEMICAL CLEANING AND PASSIVATION
COOLING WATER SYSTEM PASSIVATION
HIGH VELOCITY LUBE OIL FLUSHING
INTERNAL FIXING OF COLUMN & VESSELS
STEAM BLOWING
PIPELINE FLUSHING & PIGGING
HYDROJETTING AND HYDROMILLING
BLASTING AND PAINTING
HYDRO TEST OF TANKS & PIPELINES
EQUIPMENT RENTAL
NITROGEN SERVICES
DISINFECTION
ALKALI BOIL OUT

SERVICES OFFERED



TURNAROUNDS & INSPECTIONS



PRE COMMISSIONING SERVICES



MICRO BLASTING & NANO COATING



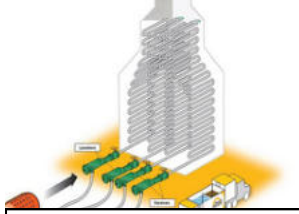
HEAT EXCHANGER RETUBING



HEAT EXCHANGER MANUFACTURING



DECOKING & DESCALING



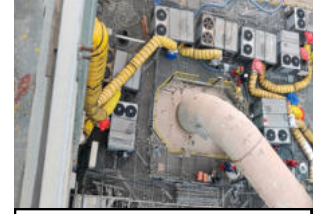
SMART PIGGING / INSPECTION



CATALYST HANDLING SERVICES



BUNDLE PULLING



INDUSTRIAL COOLING SERVICES



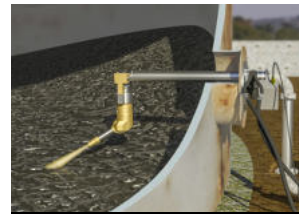
FLARE REPLACEMENT / REPAIR



HYDROJETTING & HYDROBLASTING



WASTE MANAGEMENT



AUTOMATIC TANK CLEANING (ATC)



TANKS & VESSELS MAINTENANCE



EQUIPMENTAL RENTAL



CHEM CLEANING & DECONTAM



PIPELINE FABRICATION / ERECTION



REVAMPS AND RETROFITS



RIGGING & HEAVY LIFTING



BOLT TORQUING & TENSIONING



LUBE OIL FLUSHING & FILTRATION



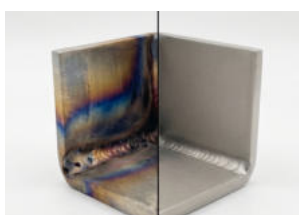
PROFESSIONAL MANPOWER SUPPLY



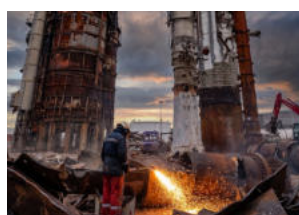
NITROGEN PURGING



CRYSTAL CLEANING FOR AIR FINS



PICKLING AND PASSIVATION



INDUSTRIAL DEMOLITION



STEAM BLOWING

PLANT TURNAROUND AND MAINTENANCE SERVICES

Kanooz offers planning and execution of maintenance activities during the plant shutdowns and Turnarounds Projects.

Scope Includes:

- LSTK contract for TA Mechanical Services
- Static Equipment Maintenance and Revamp
- Heat Exchanger (Shell & Tube, Plate, Finfan, Breechlock, Packinox)
- Columns Repair & Tray replacement
- Reactors Maintenance
- Vessels Cleaning & Maintenance
- Tanks Cleaning and Maintenance
- Valves (CV,MV,PSV,PRV, MOV etc.)
- Industrial Chemical Cleaning & Decontamination
- Catalyst Replacement & Reactor Repair
- Lube Oil Flushing & Filtration
- Heat Exchanger Re-tubing
- Heater/Furnace Maintenance/ Revamp
- Nitrogen Services
- Reformer Tube replacement
- Heavy Equipment Replacement
- Hydraulic Torquing
- Hydro-Jetting & Hydro Milling
- Blasting & Painting
- High Volume Dewatering
- Waste Management Service

Our approach to turnaround management envisages pre-engineering essentials such as scheduling, estimating, planning, task force orientation, etc., and thus to help our customers to minimize the costly downtime. These also help differentiate critical and non-critical tasks, enhancing overall accuracy for achieving completion targets.



RESOURCES

Manpower

- Maintenance Engineers
- Planning Engineers
- QA /QC Engineers
- Safety Supervisors & Safety Officers
- Staff Supervisor
- Foreman
- Mechanical Technicians
- Pipe Fitters
- Certified Riggers Level 1,2, 3
- Certified Welders
- Electricians
- Instrument Technicians

Equipments

- Cranes
- Bundle Pullers
- Torque
- Hydro jetting machines
- Air Compressors
- DGs (Diesel Generators)
- Tower Lights
- Working Tools
- Rigging Tools & Tackles
- Special Tools & equipment
- Hydro- Testing equipment & accessories
- Safety Devices
- Repair Equip & Tools



PRE-COMMISSIONING SERVICES

Kanooz offers a wide range of pre-commissioning cleaning & support services to refineries, Petro chemicals, Oil & Gas, water and power industries during pre-commissioning of plants.



Catalyst Loading: Screening, loading of fresh catalyst, molecular sieve beds, resin, packing, etc. during pre-commissioning under normal or inert atmosphere using proven dense loading or sock loading methods.



Chemical Cleaning & Passivation: Turnkey Chemical Cleaning and Passivation of boilers, exchangers, pipelines, cooling water system cleaning & passivation etc.



High Velocity Lube Oil Flushing: High velocity oil flushing and filtration for turbines, compressors, lube oil systems to NAS 4 specification, including heating, thermal shocking, etc.



Columns & Vessels: Installation of internals, Tray fixing, modifications, packing, loading etc.



Pipeline flushing, cleaning & drying: Hydro-testing, water flushing, pigging & drying, Nitrogen Purging & preservation, high velocity flushing of pipeline, hydro milling/ hydro-blasting, air blowing.



Hydro milling / hydro jetting: Mill scale removal and passivation of prefabricated piping using high flow/high pressure jetting systems such as rotating hose device.



Blasting & Painting: Blasting & Painting for tanks, vessels, pipe & equipment.



Portable Steam Generation Units: Supply of steam generators up to 4 ton/hrs capacity suitable for steaming and heating. supply of de-mineralized water etc.

Vacuum Truck, Supersuckers Rental: Heavy-duty Super sucker, vacuum trucks for bulk material handling, sludge removal, chemical transport etc.

Hydraulic Bolt Torquing: Bolt torquing using hydraulic torque tools.

Equipment Rental: Air compressors up to 1600 cfm, Power generators up to 500KVA, Portable steam generators/boilers up to 4 Tons/hr, De-humidifiers, Air conditioners, Bundle extractors, handling equipment etc.

Nitrogen Services: On-site high-pressure liquid/gaseous nitrogen supply for purging, pressure testing (up to 10,000 psi), cooling, drying, and inerting of process systems and pipelines.

MICRO BLASTING & NANO COATING

We are associated with CURRAN INTERNATIONAL (USA) in Saudi Arabia to introduce and promote an advanced cutting-edge technology - Micro Blasting & Nano Coating, and Tube Liners service for Refineries, Petrochemical, Power Generation, Oil & Gas processing Industries. We provide innovative solutions for efficient and reliable operations of Heat Exchangers.

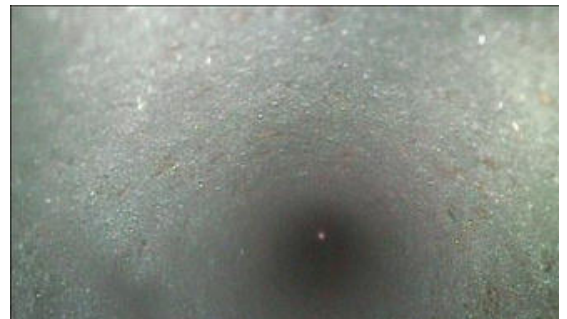
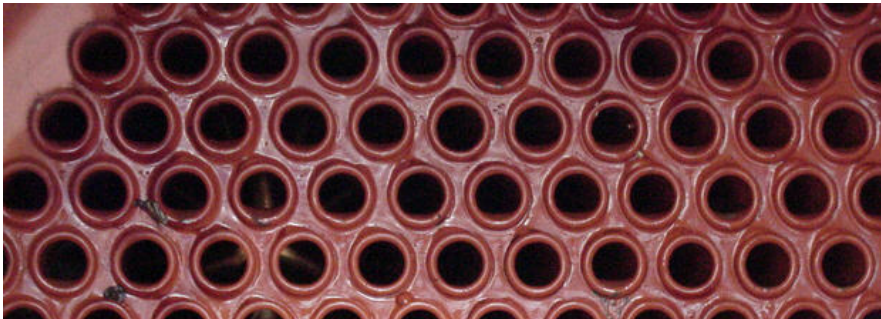
Benefits of Micro Blasting & Nano Coating for Exchangers:

- Reduce fouling
- Precipitate scaling
- Mitigate corrosion and velocity erosion
- Reduces the frequency of routine exchanger maintenance
- Extends the useful life of exchangers
- Reduces head pressure
- Energy savings support Energy Exchanger initiatives



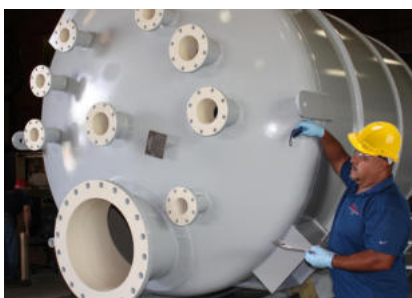
Tube ID Liners – A Smart Alternative to Plugging & Retubing:

We install custom alloy tube ID liners that restore thinning, pitted, or through-wall tubes — extending heat exchanger and fin fan life without the cost and downtime of retubing or replacement.



Micro Blasting & Nano Coating applicable for various service:

- Cooling water applications where temperatures are below 400F (204°C)
- Process and crude fouling applications at temps higher than 400F (204°C)
- Reformer Feed Effluent
- 150 Hydrotreater
- Desalter Effluent coolers
- FCC Butanize
- Reactor feed effluent
- Crude Feed Prahut
- OD coating on low film
- Sulphur Exchanger
- Air Fin coolers

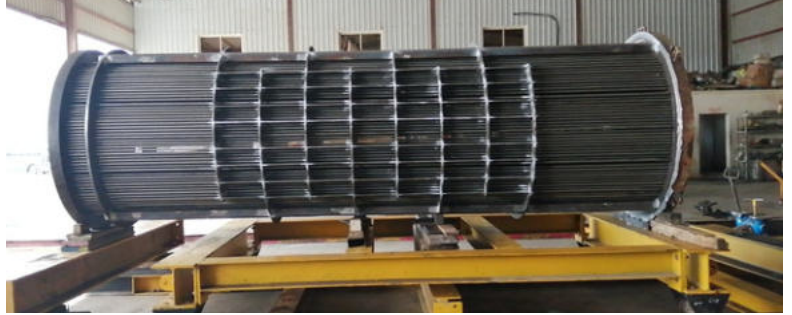


Type Of Nano Coating Solutions:

- **EPOXY / SILICONE COATING**
 Application thickness : 0.5 to 1.2 mils (30 microns)
 Upper temperature limit : 204°C
- **CERAMIC COATING**
 Application thickness : 0.5 to 2 mils (50 microns)
 Upper temperature limit : 982°C
- **TEFLON COATING**
 Application thickness : up to 3 mils (76 microns)
 Upper temperature limit : 260°C
- **YTRIUM OXIDE COATING**
 Application thickness : 100 nm
 Upper temperature limit : 1000°C

HEAT EXCHANGER RETUBING & REFURBISHMENT

We offer a complete range of on-site and off-site heat exchanger retubing services including supply of spare for all types of heat exchangers & condensers. Being ASME 'U' and NBIC 'R' certified company, Kanooz provides comprehensive refurbishment and related certification on any task as applicable.



Being one of the Turnaround services companies in the region. Kanooz provides a complete range of heat exchanger maintenance solutions that include:

Retubing:

- Tubes pulling on-site and off-site
- Tube sheet cleaning, repair & preparation
- Inspection of the tube sheet
- Skelton Assembly
- Tube insertion & Sizing
- Hydraulic tube expansion & Seal welding
- Welding
- Tube testing & Third-party certification
- ASME-U and National Board 'Stamp certifications

Overhauling:

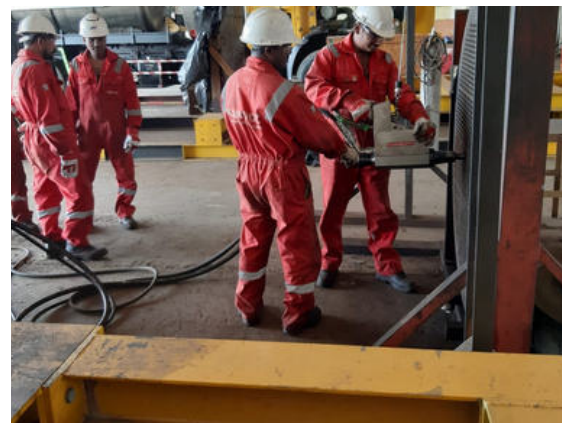
- Blinding & De-blinding
- Opening & Box up
- Bundle extraction/Pulling
- Tube & Shell repair Tube
- Bundle Cleaning
- Exchanger tubes and shell test
- Internal & External coating
- Inspection services

Spare Parts Supply:

- All types of tubes
- Tube Sheet
- Baffle Plates
- Floating Head
- Tie rods
- Sliding Bar
- Seal Strip
- Spacers

Types of Heat Exchangers We Work On

- Shell & Tube Heat Exchangers
- Plate Heat Exchangers
- Fin Fan Coolers / Air Fin Coolers
- Condensers
- Pack inox Exchangers
- Breach lock Heat Exchanger



DECOKING & SMART PIGGING SERVICES

- Decoking & Smart Pigging services established since 2013.
- Most effective, safer and environment friendly cleaning method for fired heater tubes.
- Restore the operational efficiency of furnace and minimize the rundown time.
- Equipped with 03nos of EU designed Double Pumping Units.
 - Pump capacity : 600 m³/Hrs
 - Flow capacity : 2000 gallons/ minute
 - Handle 6 passes at a time
- Decoking of Furnace heater tubes from 3 inches to 14 inches.
- Smart Pigging service enhance the predictive maintenance.
 - It includes
 - Analyse and provides tubes integrity report
 - Detect corrosion, dent, bulge, thickness reduction etc.



Equipment Specification:

Flow	180000 SCFH (3000 SCFM)
Pumping Rate	32 GPM LN2
Max Pressure	10000 PSI GN2
Temperature	72 F GN2
Nitrogen Tank	3000 Gallons
Main Drive	550 HP Diesel
Trailer	42 FT Triple Axle
Vaporizer	Non-Fired

Equipment & Accessories:

Double Pumper Unit	3x2000 GPM
Launchers/Receivers	4" To 24"
Poly Pigs	2" To 24"
Foam Pigs	2" To 24"
Decoking Pigs	2" To 12"
Pumps	600 M ³ /HR



CATALYST HANDLING SERVICES

Kanooz offers specialized catalyst handling services to refineries, petrochemical, and chemical industries. Our highly experienced crew with advanced Lloyd's certified life support system, communication and handling systems can carry out turnkey catalyst change out operations, repairs and modifications for catalytic reactors, vessels, etc. on a blind to de-blind basis.

With a combination of advanced equipment, a well-experienced and highly trained team, Kanooz provides safe & effective job performance.

Scope Includes:

- Confined space and Inert / Toxic entry operations
- Unloading of Catalyst under Inert / Toxic atmosphere
- Screening of Catalyst under continuous nitrogen purging
- Mixing and gravity separation of Catalyst-inert mixer for Catofin catalyst
- Loading by conventional and Licensed Loading Technologies
- Repairs, modifications and welding of Reactors & Vessels
- Video Inspection of Internals and documentation



Specialized Reformer Catalyst Replacement:

Kanooz crews are specialized in handling reformer catalyst activities, offering full-scope primary and secondary reformer catalyst replacement using multiple proven loading techniques.

- Primary Reformer Catalyst Replacement — sock loading, cylinder loading, and spring (dense) loading methods
- Secondary Reformer Catalyst Replacement
- Tube DP measurement



Our Major Services Cover Reactors & Equipment Including:

- Ammonia Converters — Methanol Converters, Synthesis Loop Vessels
- Hydrocracker Multi-bed Reactors
- High Temperature Shift (HTS) & Low Temperature Shift (LTS) Reactors
- Reformer Reactors
- SAP (Sulphuric Acid Plant) Converter Catalyst
- Hydrogenation Reactors
- Methanators
- Dryers
- Cold Boxes
- Tubular Reactors

Major activities include:

- Pyrophoric catalyst handling under Inert/nitrogen atmosphere
- Screening and loading under inert atmosphere
- Catalyst loading by conventional/by licensed dense loading techniques, Internal repairs, modifications of reactors
- Mixing and gravity separation during the Catofin catalyst replacements
- Tubular reactor catalyst changes out
- Uniform density loading and tube external cleaning for reformers

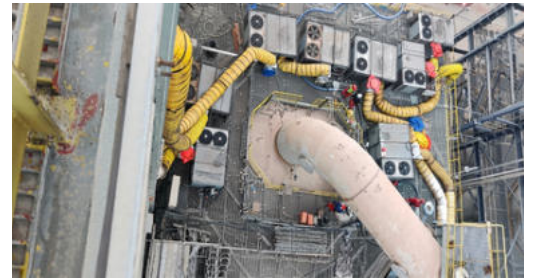


INDUSTRIAL COOLING SERVICES

Provide Industrial cooling services i.e Dehumidification temperature control and ventilation solutions to Refineries, Petrochemical, Chemical, Fertilizer, Power, Ship Building & Paint industry. It includes supply of condensing unit, chiller unit, rooftop units, dehumidifiers, blowers, flexible ducts, cables, panels comprising the HVAC package.

Our package can be designed in range of 50T to 3000T, 40-80 Relative Humidity, temperature 18°C – 75°C, depending on your requirement. Comfortable working condition ranges from 20°C to 23°C temperature & relative humidity of 40 to 60.

This service is required in Shutdowns/TA's, Projects during catalyst removal, man entry in confined space, quick reactor cool down, Heavy hot work inside columns vessels or reactors thereby maintaining the temperature & relative humidity for comfortable working conditions.



PROFESSIONAL MANPOWER SUPPLY

Kanooz provides a comprehensive range of certified professionals for turnaround, shutdown, and ongoing maintenance operations, including:

- Maintenance Engineers — experienced in static equipment, mechanical systems, and plant maintenance
- Planning Engineers — skilled in scheduling, pre-engineering, and turnaround coordination
- QA/QC Engineers — ensuring compliance with international quality standards
- Safety Supervisors & Safety Officers — enforcing HSE requirements on-site
- Staff Supervisors & Foremen — managing crew performance and daily execution
- Mechanical Technicians — handling equipment maintenance and repairs
- Pipe Fitters — for piping fabrication, erection, and modification works
- Certified Riggers (Level 1, 2 & 3) — qualified for safe lifting and rigging operations
- Certified Welders — proficient in structural and process piping welding
- Electricians — for electrical maintenance and installation works
- Instrument Technicians — for instrumentation, loop checking, and commissioning support



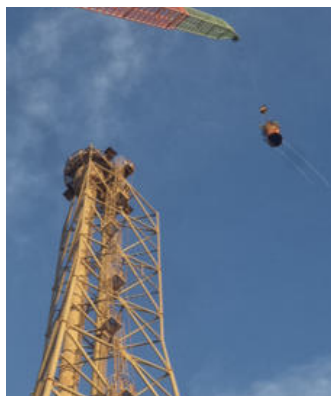
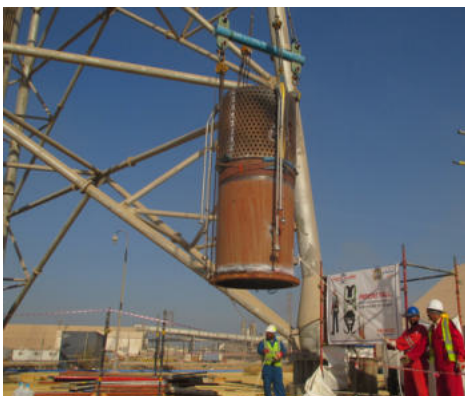
FLARE TIP MAINTENANCE

- Maintenance of Demountable Derik Type Flares.
- Load Testing and certification of existing hoisting and canting winches at site before starting the work.
- Provide Flare Tip repair service as per inspection recommendation.



Major Activities Include:

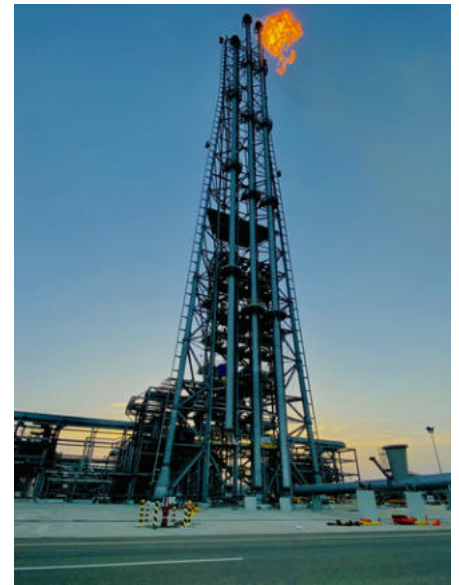
- Flare Tip Removal & Reinstallation
- Repair Of Flare Tips
- Repair Of Molecular Seal
- Riser & Structural Inspection Using Rope Access
- Insitu Repair Of Molecular Seal
- Electrical And Instrumentation Works
- Cabling And Loop Checking
- Aviation Signal Lamp Erection, Testing & Commissioning
- Supply Of Heavy Lift Cranes
- High Elevation Rigging
- Modification Of Support Structures
- Guy Wire Inspection



Demountable Type Flare:

Kanooz specializes in the safe and efficient maintenance of Demountable Derrick Type Flares. Our expertise ensures that all flare tip removal and installation works are handled with utmost precision using certified lifting methods. With a proven track record in executing complex flare system jobs, our team ensures minimal downtime and maximum safety compliance throughout the process.

All works are performed by experienced technicians using tested and certified equipment under stringent safety protocols. Our methodical approach includes the inspection, testing, and certification of lifting systems before starting the job, ensuring a smooth and risk-free maintenance cycle.



Major Activities Include:

- Load testing and certification of hoisting and canting winches before execution
- Demounting and mounting of Derrick-type flare tips using certified lifting equipment
- Flare tip repair and refurbishment as per inspection reports
- Inspection and maintenance of associated structures
- Electrical and instrumentation works
- Turnkey execution during shutdowns and turnarounds

DIVING & UNDERWATER MAINTENANCE SERVICES

Kanooz offers this specialized service to handle underwater cleaning and maintenance. For this purpose, we have specially trained divers, who are experienced to carry out underwater maintenance jobs, inspection, and underwater photography. The services also include underwater installation of piping & equipment, sluice gates, etc.

Underwater Services Highlights:

- Installation of piping & equipment
- Cleaning of seawater intake systems
- Online cleaning of seawater basin / pits
- Underwater video & photography
- Repair, dredging & sealing
- Installation of sacrificial anodes
- Marine growth removal, Cleaning using High-Pressure water jetting



HIGH PRESSURE WATERJETTING

High velocity water jets can produce incredible performance in industrial cleaning and allied activities like cutting, surface preparation etc. Kanooz puts the power of water energy to work for you in many ways as heat exchanger tube cleaning, pipe cleaning, vessel & tank cleaning etc.



We offer a broad range of water jet cleaning services, with the skill and experience it takes to deliver them reliably. Our custom-designed nozzles and tools - combined with our fleet of truck-mounted/containerized diesel-driven high-pressure pumps - enable us to give you unmatched speed, effectiveness, and safe cleaning.

Hydro-jetting Accessories:

- Flex Lancing & Rigid lancing
- External Bundle Blaster
- Multi lancing TLE
- 3D Tank cleaning heads
- Hot water jetting systems
- Spin jet guns
- Rotating cleaning heads, nozzles
- Cold cutting/window cutting

Rotary Hose Device (RHD)

RHD is a revolutionary, internal pipe cleaning system with specially designed cleaning nozzles. The hose is rotated as it passes through the pipe while the cleaning nozzle remains forced against the pipe wall to improve cleaning compared to conventional pipe cleaning techniques. The system operates with high-flow, high-pressure pumps and is capable of cleaning tough or solidly blocked or scaled tubes.

Features Of RHD:

- Working Pressures - Up To 40,000 Psi
- Maximum Range - 200 Gpm
- Maximum Cleaning Distance - 1500 Feet
- The Device Can Negotiate Bends In A Piping System
- Widely Accepted Pipe-cleaning Tool
- The Unit Works In Automatic Mode, Thereby Reducing The Cleaning Time When Compared To Manual Techniques
- Rotational Speed, Rotational Direction, Pressure, And Flow Are All Remotely And Independently Controllable

Scope Includes:

- Heat Exchanger Tube Cleaning
- Bundle Cleaning
- Tank, Vessel, Column Cleaning
- Pipeline Cleaning
- Surface Preparation, Cold Cutting
- Marine Growth Removal
- Sludge Removal
- Block Line Cleaning
- Decoking
- Floor Cleaning
- Jetting Under Inert Atmosphere
- Wearing Gas Suits & Special Life Support System



Our specialist jetting crew is well trained to carry out Hydrojetting under inert or toxic conditions using advanced Breathing Air systems for special cleaning requirements.

Our highly experienced team can plan & handle any size of cleaning requirement for heat exchanger bundles, vessels, columns, pipelines, surface preparation, marine growth removal, etc., quickly and safely.



WASTE MANAGEMENT SERVICE

Our success in industrial support services begins with wide range of quality equipment and experienced crew. Having the biggest fleet of vacuum trucks in the Kingdom, allowing Kanooz to handle anything wet, dry sludge, or granules. Our custom-made super vacuum trucks are capable of handling heavy sludge to bulk dry material vacuuming.

Kanooz rich experience in waste management service to wide range of industries and equipped with wide range of equipment to handle virtually any Industrial vacuuming applications, including:

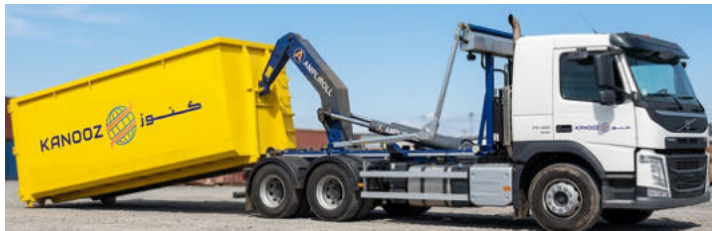
- Catalyst vacuuming
- Sludge Removal
- Powder Sucking
- Chemical Or Hazardous Material Handling
- Product Transfer



All our vacuum trucks are equipped with strong stainless-steel tanks with safety devices and capable of handling corrosive & inflammable fluids, designed to operate in potential hazardous atmospheres.

Special accessories are used for effective removal of materials of dust/powder nature under inert or normal conditions. The dry super suckers have special cooling & recycling loop to minimize nitrogen medium during the handling of pyrophoric materials safely and reduce the expense.

Vacuum Sucker	13 nos.	14m ³
Skip Truck	38 nos.	12m ³
Super Sucker	80 nos.	12m ³
Ampliroll	31 nos.	24m ³



The Range of Vacuum Systems Includes:

- Heavy Duty Super Suckers – Trailers
- Super Suckers Trucks
- Standard Vacuum Trucks
- Dry Super Suckers – Truck & Trolley Mounted
- Cyclone hoppers & filter bag houses - Telescopic

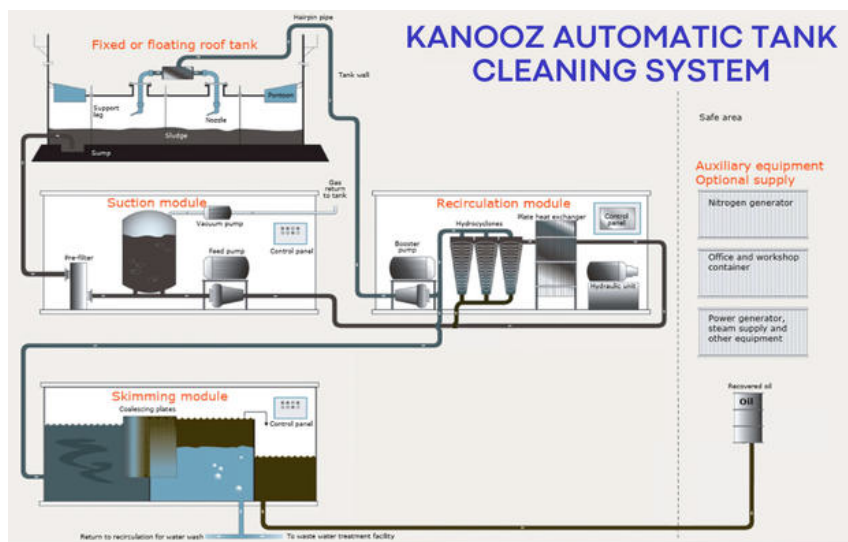


AUTOMATIC TANK CLEANING (ATC)

Our Automatic Tank Cleaning (ATC) system is approved by Saudi Aramco as a Best Practice (SABP-001). It offers significant advantages in safety, efficiency, and cost-effectiveness in compared to manual tank cleaning.

Key Benefits of ATC:

- **Enhanced Safety:** Eliminates confined space entry, reducing safety hazards.
- **Environmental Sustainability:** Minimizes waste disposal and transportation costs.
- **Oil Recovery:** Achieves up to 98% oil recovery from sludge, reducing costs.
- **Time Efficiency:** Cleans tanks 70-80% faster than manual methods.
- **Reduced Manpower:** Decreases manpower requirements by 80-90%, further improving safety.



PARAMETER	VALUE
TANK PRODUCT	Crude Oil
TANK VOLUME	1.1 million barrels
TANK DIA.	340 ft. or 110 mt
TANK HEIGHT	64 ft. or 20 mt
SLUDGE HEIGHT	1.64 ft or 0.5 mt
SLUDGE VOLUME	30000 bbl
TOTAL OIL RECOVERY	28500 bbl
OIL COST/BBL	\$82 or 307 SAR
OIL RECOVERY VALUE	\$2.33 Million or 8.76 million SAR

YEAR	CONTRACT NO.	CLIENT NAME	WORK DESCRIPTION
2025	6511130181	YANBU REFINERY (COT)	TANK CLEANING AND OIL RECOVERY @WRTD
2025	MARK/I/PO/17199/2025	WJO – CHEVRON (KUWAIT)	TANK CLEANING AND OIL RECOVERY @WAFRA JOINT OPERATIONS IN KUWAIT
2024	6511130181	YANBU REFINERY (COT)	TANK CLEANING AND OIL RECOVERY @WRTD
2023	6511130181	YANBU REFINERY (COT)	TANK CLEANING AND OIL RECOVERY @WRTD

TANK & VESSEL MAINTENANCE & REPAIR SERVICES

Kanooz provides turnkey industrial tank decommissioning, cleaning, maintenance, and inspection services for large above-ground storage tanks. Our scope covers specialized maintenance and cleaning works for tanks in different service conditions, including Ammonia, VCM, and Acid storage tanks as per customized procedures.



Kanooz has successfully carried out critical tank decontamination, cleaning, maintenance and inspection as per customized procedures for Ammonia, VCM and Acid storage tanks.

Tank Maintenance & Cleaning Services Include:

- Positive isolation and repositioning of roof support legs on internal floating roof tanks while in service using breathing air apparatus.
- Removal and reconstruction of collapsed internal floating roofs.
- Product transfer using special pumping and vacuum systems.
- Sludge removal, disposal, decontamination, and degassing.
- Internal surface cleaning and inspection using UT, MFL, and colour video inspection techniques under normal or BA conditions.
- Floating roof seal change-outs.
- Repairs of bottom plates, roof plates, and floating roofs, including cold cutting.
- Blasting, painting, and coating works.
- Decommissioning and demolition of tanks.

Cleaning Services

Manual cleaning, sludge removal, disposal, decontamination, degassing, and product transfer using pumping and vacuum systems.

Inspection Services

Internal surface inspection using UT, MFL, and colour video inspection techniques.

Hot Works Services

Welding, floor replacement, bottom plate repairs, roof plate repairs, and floating roof repair works.

Blast & Paint Services

Manual blasting, painting, and coating works with required access support.

Decommissioning Services

Tank decommissioning, demolition, and de-installation support.



CHEMICAL CLEANING & DECONTAMINATION SERVICES

We offer a broad range of chemical cleaning services during pre & post-operational or maintenance in the plant, namely boilers, cracking furnaces, steam systems, pipelines, vessels, exchangers, process equipment, etc.



Our approach to a safe and quality cleaning process, entrusted by following the steps:

- Choosing the right chemistry depending on metallurgy, scales preservation schedules
- Choosing the right equipment like pumps, temporary piping, fittings, etc. Depending on circuit flow, flow restriction, pressure drops, velocities, and other parameters
- Choosing reliable laboratory monitoring facilities for right control by monitoring parameters during cleaning for proven results

Foam Cleaning:

The foam cleaning system is the ideal method for cleaning of process vessels, fin-tube exchangers, surface condensers, high-pressure steam turbines, etc., because of its maximum solvent-to-surface exposure to reach the entire surface without air/gas locks or gaps.

Decontamination Services:

Kanooz had entered a business alliance with approved chemistry from globally renowned companies to render a comprehensive process decontamination service for Oil & Gas Industries.



Choose Vapour Phase when:

- You need fast vessel entry and minimal downtime
- Equipment has complex internals or is difficult to flood
- You want minimal effluent and a small equipment footprint
- H₂S/benzene/LEL reduction is the priority

Choose Liquid Phase (Boil Out) when:

- There is heavy sludge, coke, or polymerized hydrocarbons
- You need physical removal of thick deposits
- Equipment can be safely filled or circulated with liquid



PIPELINE & STRUCTURE FABRICATION

From drawings, BOQ and sketches to controlled shop fabrication, finishing and delivery. Kanooz Contracting Company LLC supports contractors and industrial clients who need a dependable fabrication partner capable of converting RFQ documents, MTO/BOQ data, site components or modification requirements into practical fabricated items.

Design & Build Services

- **Steel Structures**

Frames, beams, columns, bracing, pipe racks, platforms, equipment supports and miscellaneous structural steel.

- **Access Systems**

Platforms, stairs, ladders, monkey ladders, cage ladders, handrails, walkways and maintenance access structures.

- **Piping Skids**

Piping skids, utility skids, modular base frames, valve assemblies, flanged piping and support frames.

- **Tanks & Vessels**

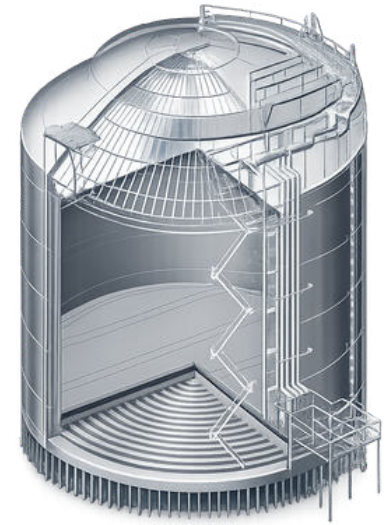
Fleet tanks, vacuum tanks, cylindrical tank works, nozzle/support fabrication and vessel repair support.

- **Plate Works**

Embedded plates, base plates, brackets, gussets, saddles, guards, supports and custom plate assemblies.

- **Oilfield Items**

Rig and drilling support frames, guards, equipment bases, oilfield accessories and repair fabrication.



BOLT TORQUING & TENSIONING

Kanooz provides hydraulic bolt torquing and tensioning as part of its on-site mechanical and joint-integrity services. Every joint is tightened to calculated values using calibrated hydraulic tools and trained technicians — replacing manual guesswork with repeatable, documented, controlled load, so connections seal first time and carry their design load safely.

Two Controlled Methods

Hydraulic Torquing

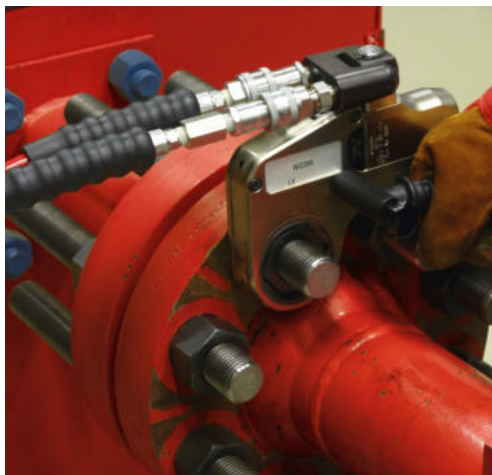
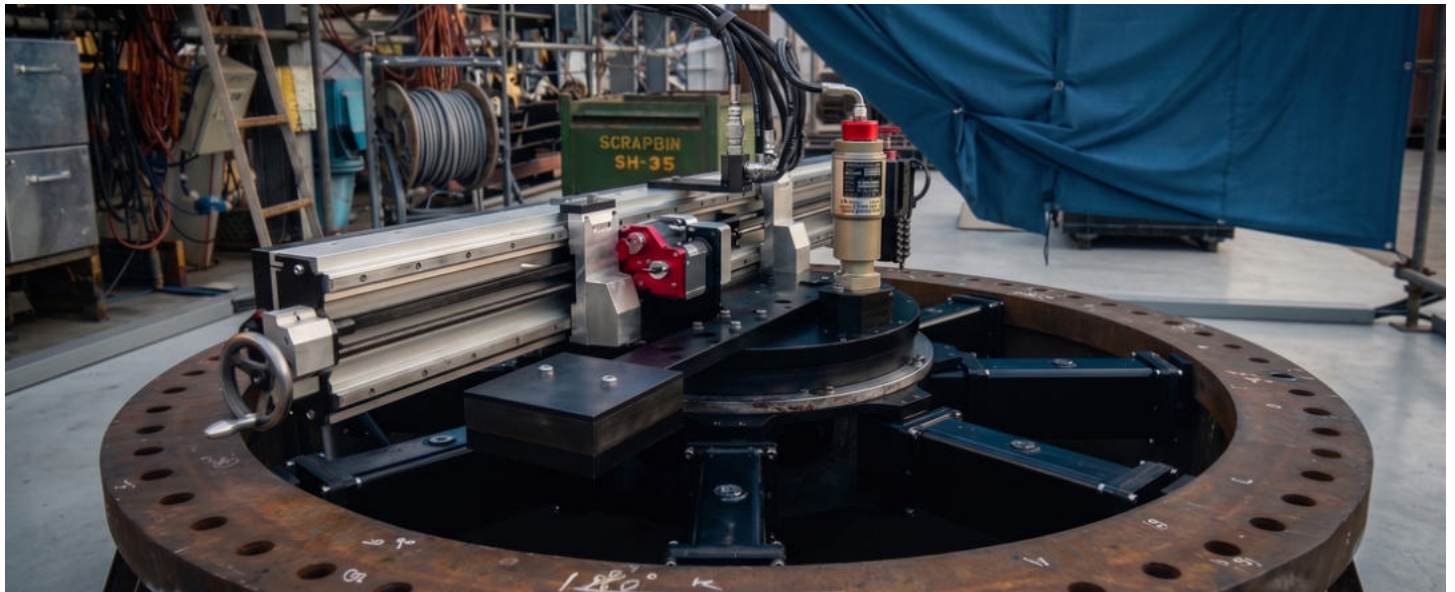
Calibrated rotational force via hydraulic torque wrenches to a precise, pre-calculated torque value — repeatable across a wide range of bolt sizes.

Hydraulic Tensioning

Direct axial load applied to all studs at once via hydraulic tensioners — even, pre-set tension around the whole joint. Ideal for large and critical connections.

Scope Includes:

- Controlled torquing & tensioning to calculated values
- Flange joint make-up (box-up) and break-out
- Bolt-load & torque-value calculation and procedures
- Recording & documentation of applied loads
- Release of seized and corroded bolting
- Joint Integrity Management (JIM) / flange management



LUBE OIL FLUSHING & FILTRATION

HIGH VELOCITY LUBE OIL FLUSHING:

- Removes contaminants from hydraulic & lube oil piping/tubing
- Ensures high reliability of turbines, compressors & rotating equipment
- Eliminates debris like scale, slag, dust, moisture, and metal particles
- Essential during commissioning & maintenance phases
- Achieves OEM-required cleanliness levels
- Extends equipment life & reduces long-term maintenance cost

✓ Improves performance, reliability & system integrity

Our units are capable of filtering oil to particle count as low as NAS 3 specification. The benefits of using this unit are:

- No need of equipment shutdown. It will save your production loss due to unit shutdown.
- Reuse of old oil with new oil cleanliness specification.



Moisture Removal by Vacuum Dehydration:

- Remove free, emulsified and dissolved water by vacuum distillation & mass transfer.
- Achieve overall content as low as 20ppm.
- Remove entrained air, and dissolved gases by vacuum distillation.
- Achieve particle counts as low as ISO 14/12/9 cleanliness level.

Equipment Specification:

Pump Flow	1000 To 2000 GPM
Discharge	6 Bar
Drive	Electric
Filtration	12 Element Cartridge Filters
Unit Heater	120kw
Particle Monitor	Inline Laser Particle Counter

High Velocity Oil Flushing:

High Velocity Lube Oil flushing is the circulation of lube at a rate of three or more times the normal flow rate of the system pump.



Varnish Removal System (VRS):

Varnish deposits in lube oil systems cause stiction, overheating, and premature failure of critical rotating equipment. Kanooz's Varnish Removal System operates in a continuous kidney-loop configuration — removing both soluble and suspended varnish without equipment shutdown.

- Reduces varnish potential (MPC) from critical to normal levels within 2–4 weeks
- Achieves ISO cleanliness as low as ISO 14/12/11
- Prevents varnish plating on servo valves, bearings and control surfaces
- Applicable to gas turbines, compressors, EHC and hydraulic oil systems
- No production loss — runs online alongside equipment

NITROGEN SERVICES



Liquid Nitrogen Vaporizers

Our high-pressure, high-flow nitrogen vaporizers can deliver gaseous nitrogen on-site at a temperature range of 20°C to 50°C at 10000psi pressure at the rate 3000cfm (180000 scfh). This high flow, high pressure equipment allows us to handle cooling of catalytic reactors, process systems, purging of process loops, inert & high-pressure testing of process equipment and pipelines faster than the conventional methods and facilitate the displacement of hazardous chemicals from pipelines and pigging of pipelines etc.



The Nitrogen Services Include:

- Pipeline Purging, Drying & Preservation
- Reactor Cooling, Purging
- Pressure Testing Up To 10000 Psi
- Hazardous Chemical Scavenging
- Pipeline Pigging
- Decommissioning Of Process Loops
- Process Equipment Blanketing
- On-Site Nitrogen Generation (PSA)
- Supply of Boiler equipment from 2 TON to 6 TON



On-Site PSA Nitrogen Generation

In addition to our liquid nitrogen vaporizer fleet, Kanooz now offers on-site nitrogen generation using the Kanooz (PSA) Nitrogen Generator — producing nitrogen directly from atmospheric air, eliminating dependency on liquid nitrogen supply and transport.

Key Specifications:

- Capacity: 300 Nm³/h
- Containerized in 20ft container — mobile and site-deployable
- Fully automated operation: auto start/stop based on demand
- Continuous purity and pressure monitoring via HMI panel
- Operating temperature range: +5°C to +45°C
- Power supply: 110–240V PLC / 400V compressor



CRYSTAL CLEANING FOR AIR FIN COOLERS

Kanooz offers Crystal Clean, an advanced cleaning solution for Air Fin Coolers, designed to improve performance without process disruption. This service is delivered in collaboration with Indus, utilizing a dry, mechanical cleaning method that removes internal and external fouling without damaging aluminum fins or requiring unit shutdown.

Key Features:

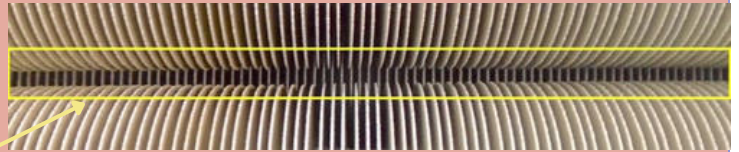
- **Online Cleaning:** Carried out with process in operation—no need to stop induced-draft fans.
- **Non-Invasive:** No scaffolding or shutdown required; performed from platforms under the fans.
- **Damage-Free:** No acids, no fin bending, no surface degradation.
- **High Effectiveness:** Removes fouling from both external fin surfaces and inner tube layers.
- **Environmentally Friendly:** Fouling and cleaning crystals pulverize into fine dust carried away by wind, with minimal fall-down.



Before

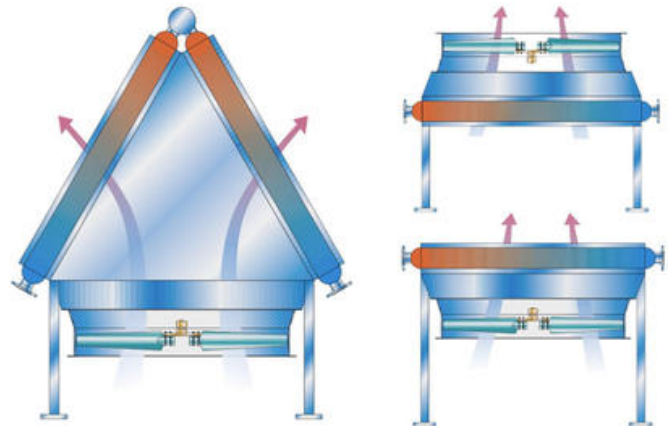


After



How Crystal Clean Works:

- Fluidised mineral crystals are injected with 4-6 bar of compressed air
- Friable crystals undergo fragmentation upon impact
- Both crystals & fouling are pulverized into a fine dust
- Infinite number of collisions lifts away fouling without damaging the aluminum fins.
- The process lifts away contamination via countless micro-collisions, preserving the fin structure.



INDUSTRIAL DEMOLITION & DECOMMISSIONING

Kanooz, in association with KMS Middle East / Koole, offers comprehensive industrial demolition and decommissioning services across onshore and offshore sectors. With over 40 years of combined international experience, our partnership delivers complex, high-risk projects safely, efficiently, and in full regulatory compliance across industrial, maritime, and operational environments.

Offshore & Marine:

- Offshore Platform Decommissioning
- Maritime Demolition Services
- Wreck Removal & Salvage
- Emergency Response Services

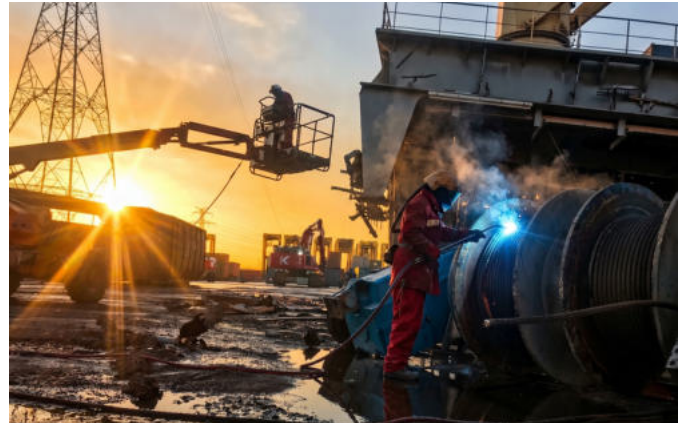
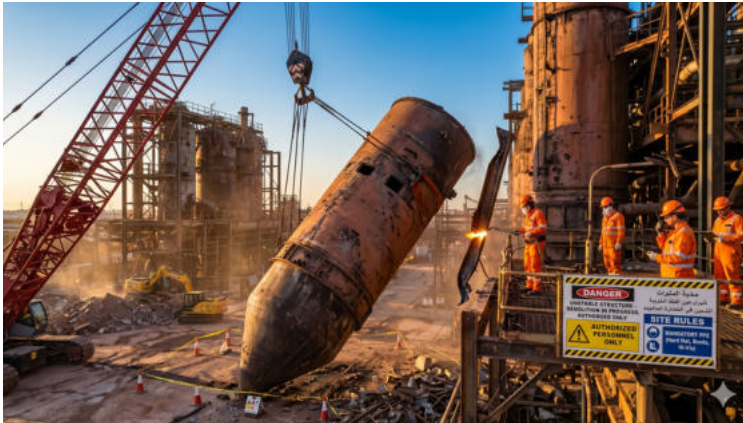
Onshore & Industrial:

- Industrial Demolition of Live & Shutdown Plants
- Decommissioning of Process Facilities
- Industrial Cleaning & Decontamination
- Hazardous Material & Asbestos Removal



Specialized Capabilities:

- Advanced Cutting & Controlled Demolition Techniques
- Dry Ice Cleaning Technology
- Industrial Spill Response & Environmental Cleanup
- Soil Remediation & Pollution Control
- 24/7 Emergency Response Capability



STEAM BLOWING

Kanooz provides specialized Steam Blowing Services for the cleaning and conditioning of newly installed or modified steam piping systems in power plants, refineries, petrochemical facilities, and industrial plants. Steam blowing is a critical pre-commissioning activity used to remove mill scale, welding slag, rust, debris, and foreign particles from steam lines before plant startup.

Using controlled high-velocity steam, our experienced team ensures the internal cleanliness of steam systems, protecting critical equipment such as steam turbines, control valves, safety valves, and heat exchangers from potential damage during operation.

Our Capabilities:

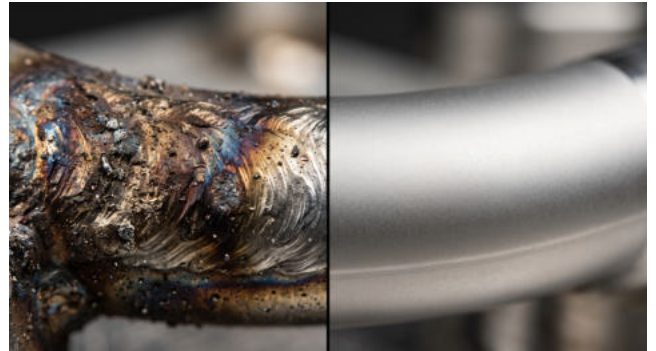
- High-pressure and low-pressure steam blowing
- Temporary steam blowing system design and installation
- Steam force ratio (SFR) calculations
- Target plate inspection and acceptance
- Online monitoring and recording of parameters
- Temporary piping fabrication and installation
- Valve management and equipment protection
- Pre-commissioning and commissioning support
- Safety planning and risk assessment



PICKLING & PASSIVATION

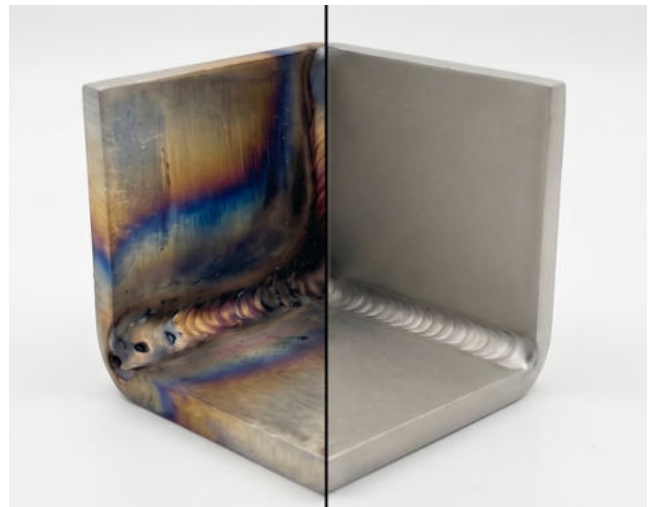
Kanooz provides professional Pickling and Passivation Services for stainless steel piping, vessels, tanks, heat exchangers, and process equipment across oil & gas, petrochemical, power, and industrial facilities. These essential chemical treatment processes restore the corrosion-resistant properties of stainless steel by removing surface contaminants, heat tint, weld oxides, rust, and embedded iron particles generated during fabrication and installation.

Our experienced team utilizes approved chemicals, specialized application methods, and strict safety procedures to ensure equipment surfaces are thoroughly cleaned and properly passivated, delivering optimum corrosion resistance and long-term asset integrity.



Our Capabilities:

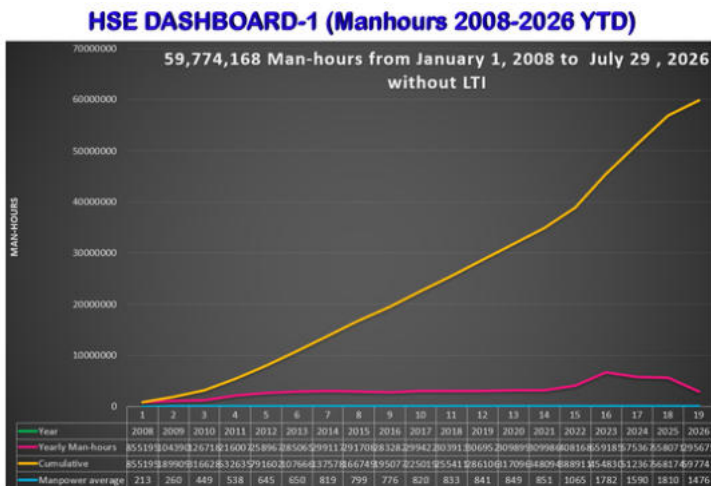
- Stainless steel pickling of piping systems and equipment
- Weld discoloration and oxide scale removal
- Chemical passivation treatment
- Circulation pickling for pipelines and process systems
- Spray, immersion, and paste pickling methods
- Flushing and neutralization services
- Temporary chemical cleaning setups
- pH monitoring and quality control
- Surface cleanliness verification
- Pre-commissioning and commissioning support



SAFETY & TRAINING

At Kanooz, Safety is not by accident, it is our tradition. Since the beginning, Safety & Training have been a top priority in the company. Our strategy of no compromise on safety and proper training of our men gave us good mileage in gaining the confidence of our customers. Every member of Kanooz operation undergoes frequent in- house safety awareness and refreshment programs that enable us to handle the jobs in the safest way.

Safety plans & Analysis: Kanooz has derived its own safety plan & procedures to support different activities in the field and to carry out the work utmost safe. The purpose of this Safety plan is to set the general requirements and expectations for conducting the activities in a manner that assures Safety & health of all employees and protect the environment & equipment. These Safety plans are applicable to the complete.



Three Years HSE Performance

DESCRIPTION	CODE	2023	2024	2025
Total Manhours Worked	TMW	6,591,852	5,753,572	5,580,716
Fatalities	FAT	0	0	0
Lost Workday Cases	LWC	0	0	0
Restricted Workday Cases	RWC	0	0	0
Medical Treatment Cases	MTC	0	0	0
First Aid Cases	FAC	0	0	2
Total Recordable Cases (Sum FAT, LWC, RWC & MTC)	TRC	0	0	0
Fatal Accident Rate (per 10 ⁶ hours)	FAR	0	0	0
Lost Time Injury Frequency (per 10 ⁶ hours)	LTI	0	0	0
Total Recordable Case Frequency (per 10 ⁶ hours)	TRCF	0	0	0

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 Vice President - Projects

LW CFR Lost Work Day Case Frequency Rate

TRCFR Total Recordable Case Frequency

TRIFR Total Recordable Injury Frequency Rate

RW CSR Restricted Workday Cases Days Severity Rate



SERVICES AT A GLANCE

TURNAROUND & SHUTDOWN SERVICES
MICRO BLASTING & NANO COATING
AUTOMATIC TANK CLEANING SYSTEM (ATC)
DECOKING & SMART PIGGING
INDUSTRIAL CHEMICAL CLEANING & DECONTAMINATION
CATALYST REPLACEMENT & REACTOR REPAIRS
DECONTAMINATION SERVICE
CRYSTAL CLEANING FOR AIR FIN COOLERS
FRESH CATALYST LOADING & UNLOADING
TUBULAR REACTOR SERVICES
PIPELINE PIGGING & SCRAPPING
INDUSTRIAL DEMOLITION & DECOMMISSIONING
PIPELINE FABRICATION, ERECTION & VALVE REPLACEMENT
HEAT EXCHANGER MAINTENANCE
HEAT EXCHANGER RETUBING
COLUMNS & VESSELS MAINTENANCE
DEMOUNTABLE FLARE MAINTENANCE
HYDROJETTING & HYDROMILLING
LUBE OIL FLUSHING, FILTRATION & DEHYDRATION
NITROGEN SERVICES, DRYING, PURGING & COOLING
HEAVY EQUIPMENT REPLACEMENTS & RIGGING
TANK MAINTENANCE & REPAIR
TANK FABRICATION & ERECTION
TANK & VESSEL DESIGN & BUILD SERVICES
INTERNAL FIXING OF COLUMN & VESSELS
BLASTING & PAINTING
FLARE TIP REPLACEMENT
WASTE MANAGEMENT SERVICE
DRY & WET VACUUMING SUPERSUCKERS
DIVING & UNDERWATER MAINTENANCE
HIGH VOLUME DEWATERING
HYDRAULIC BOLT TORQUEING SERVICES
COOLING WATER SYSTEM PASSIVATION
INDUSTRIAL COOLING SERVICES
STEAM BLOWING
HYDRO TEST OF TANKS & PIPELINES
EQUIPMENT RENTAL



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