

PRACTICAL GUIDE · 2026 EDITION

Pressure Equipment EAC Certification and Declaration

A comprehensive handbook for manufacturers,
exporters and product managers



**TR CU 032/2013 · CATEGORIES · CONFORMITY ROUTES
TESTING · DOCUMENTATION · CHECKLISTS**

How to use this handbook

Take pressure equipment from specification to documented shipment release.

This guide supports manufacturers, plant builders, exporters, importers and quality managers of vessels, piping, boilers, valves and safety-related equipment. It addresses EAC market access under TR CU 032/2013 in Russia, Kazakhstan, Belarus, Armenia and Kyrgyzstan, including interfaces with machinery and assemblies. German and English editions share the same chapters and worksheets.

Make three separate decisions

First assess scope. Then determine category and required conformity route. Finally match the actual configuration to documents, tests and marking. Pressure above 0.5 bar alone does not establish an EAC obligation. European CE evidence likewise does not automatically replace EAC conformity assessment. National operator duties require separate review.

Pages 4-15 cover classification and interfaces. Procedures and project organisation appear on pages 16-21. Pages 22-34 explain records, manufacturing, testing and labelling. Validity, surveillance and national issues follow on pages 35-41. Costs, an example, FAQs and worksheets appear on pages 42-47; sources and contact details conclude the guide.

Edition 1.0 · As of 11 October 2026

Based on the AC Inorms sector page and regulations archive, supplemented by official legal acts. Includes amendments No. 49/2021, No. 137/2023 and the Russian special route under No. 107/2025, effective from 21 January 2026. Explanations and examples replace neither the original legal act nor product-specific technical assessment.

Contents

Navigate directly to chapters and linked legal sources.

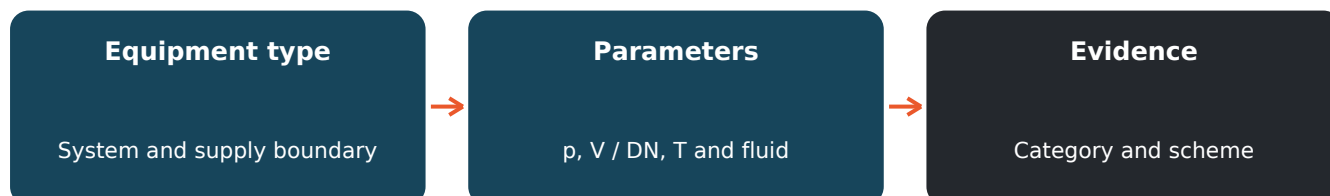
Chapter	Pages
Classification, parameters and equipment types	4-13
PED and other technical regulations	14-15
Conformity routes and responsibilities	16-20
Workflow and documentation	21-25
Design, manufacturing and testing	26-33
Labelling and validity	34-36
Surveillance, changes and registers	37-39
Operation and Russian special route	40-41
Costs, worked example and FAQs	42-44
Checklist, enquiry and product matrix	45-47
Sources, regulations archive and contact	48-50

Suggested starting point

Start with equipment type, design pressure, volume or DN, fluid, fluid group and wall temperature. For assemblies add the P&ID, system boundaries and installation scope. These establish a traceable category and a defensible test and conformity plan.

Quick start: seven project decisions

Classification needs technical data and an unambiguous supply boundary.



Product-specific assessment · schematic explanation

Assessment area	Project implementation
01 · Identity	Record manufacturer, site, models, variants and serial numbers.
02 · Type	Vessel, piping, boiler, valve or safety equipment?
03 · Parameters	Document design pressure, temperature, volume or DN.
04 · Fluid	Justify state, composition and group.
05 · Category	Apply the appropriate Annex 1 table and additional rules.
06 · Supply	Series, batch, individual unit or completion at the place of use?
07 · Evidence	Select scheme, assessment bodies, applicant and records.

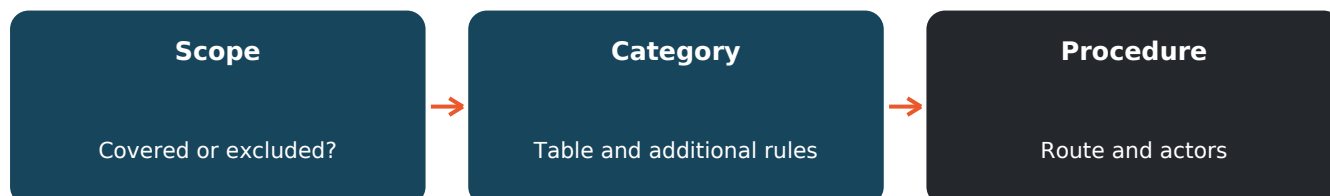
A quotation description such as “pumping system” or “pressure vessel” is insufficient. Record every pressure-loaded item and its parameters. A pumping station can include vessels, piping and safety parts while the pump casing itself falls under an exclusion. The customs code is supporting information rather than a complete classification. For multiple destinations, also establish whether the common EAC route or an expressly national exception is intended. Changes to fluid or use can alter the initial assessment.

In practice

An equipment list with parameters and P&ID; references saves more time than a generic request for a plant certificate.

Scope: more than the 0.5-bar threshold

Assess equipment type, parameters and exclusions together.



Product-specific assessment · schematic explanation

Assessment area	Project implementation
Principle	Covered pressure equipment placed on the EAEU market.
Pressure	0.05 MPa equals 0.5 bar; “above” differs from “at or above”.
Vessels	Consider group, physical state, V and pressure-volume product.
Piping	Use DN and pressure-DN product rather than vessel volume.
Special rules	Check boilers, small high-pressure vessels, accessories and exclusions.

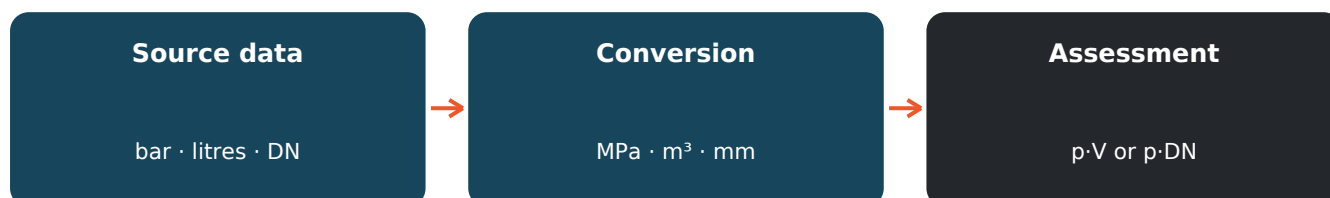
The sector page uses 0.5 bar for orientation. The regulation, however, contains differentiated entry criteria. Group 2 liquids, for example, have different pressure, volume and product thresholds from Group 1 gases. Small high-pressure vessels can be covered by special conditions. Do not exempt an item solely by pressure because one criterion is not met. For each item document the relevant Section I provision, exclusion review and subsequent category table. A finding outside TR 032 does not settle other regulations.

In practice

Record scope assessment and categorisation as two separate steps.

Pressure, volume, DN and units

Unit errors can invalidate an entire classification.



Product-specific assessment · schematic explanation

Assessment area	Project implementation
Pressure types	Distinguish operating, design, nominal and test pressure.
Conversion	1 MPa = 10 bar; 0.1 MPa = 1 bar.
Volume	1 m³ = 1,000 l; document design internal volume.
Pressure product	p in MPa × V in m³; do not insert unconverted bar × litres.
Piping	DN in mm as nominal diameter; do not substitute outside or bore diameter.

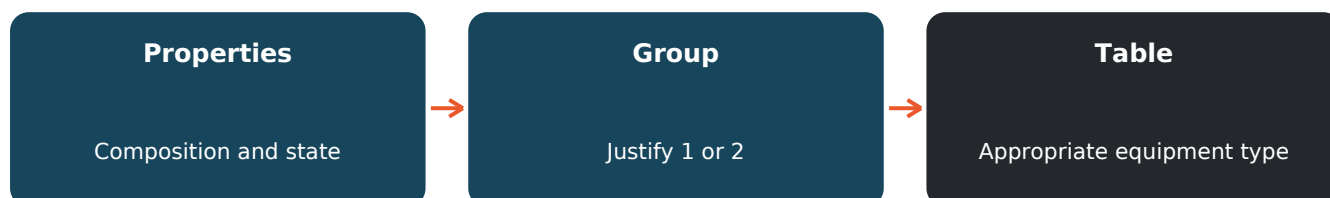
Current entry criteria and tables use design pressure. Normal operating point or flange PN rating alone is not an unreviewed substitute. Example: 10 bar and 100 litres give $1 \text{ MPa} \times 0.1 \text{ m}^3 = 0.1 \text{ MPa} \cdot \text{m}^3$. For DN 80 at 1.6 MPa, p·DN is 128 MPa·mm. The latter is a piping parameter and must not be compared with a vessel table. State minimum and maximum temperatures separately; test pressure follows the established test strategy rather than shortcutting classification.

In practice

Maintain original units alongside converted values for every input.

Working fluids and Groups 1 and 2

Actual fluid properties support assignment to a group.



Product-specific assessment · schematic explanation

Assessment area	Project implementation
Group 1	Flammable, oxidising, combustible, explosive, toxic and highly toxic fluids.
Group 2	All working fluids not assigned to Group 1.
Air	Specifically consider natural atmospheric oxygen composition.
Mixtures	Review composition, concentration and permitted alternative fluids.
State	Correctly identify gas, vapour, liquefied gas or liquid.

Assignment relies on safety data, composition and intended use. Air with natural atmospheric composition is expressly excluded from the definition of oxidising fluids; oxygen-enriched mixtures require separate assessment. Nitrogen is not automatically Group 1 because of asphyxiation risk, although it can create significant operating hazards. For multiple permitted fluids, assess each relevant classification and apply the governing higher category. Later use with another fluid can change safety design, material suitability and conformity scope.

In practice

Keep fluid and group consistent in passport, calculations, application and equipment list.

Categories: the nine Annex 1 tables

Selecting the table starts rather than completes classification.

Assessment area	Project implementation
Tables 1 / 2	Gas and vapour vessels: Group 1 / Group 2.
Tables 3 / 4	Liquid vessels: Group 1 / Group 2.
Table 5	Steam boilers, hot-water boilers and fired vessels.
Tables 6 / 7	Piping and valves for gas / vapour, Group 1 / 2.
Tables 8 / 9	Piping and valves for liquids, Group 1 / 2.
Additional rules	Account for temperature, material, multiple fluids and accessories.

Read each table row completely: volume or DN, pressure product and pressure can jointly form conditions. Apply “above” and “up to and including” boundaries exactly. At high design wall temperatures Annex 1 raises category by one, capped at 4: from 380 °C for the specified carbon and low-alloy manganese steels, 450 °C for specified Cr-Mo steels, 525 °C for specified high-alloy steels, 575 °C for iron-nickel alloys and 600 °C for nickel alloys. Confirm exact material assignment.

In practice

The file should identify table, actual row, inputs and every additional rule; an unexplained category is incomplete.

Vessels, chambers and heat exchangers

Describe every pressure chamber with fluid and limiting parameters.

Chamber A

Fluid and parameters

Interface

Differential pressure and heat

Chamber B

Fluid and parameters

Product-specific assessment · schematic explanation

Assessment area	Project implementation
Chamber	Internal volume, design pressure and wall temperature per space.
Heat exchanger	Shell and tube sides, differential pressure and interaction.
Cylinder	Record transport, filling, fluid and construction.
Special pressure	Assess vacuum, external loads and changing operating states.
Identity	Link drawing, passport and test report to the same chamber.

A heat exchanger can have different fluid groups and categories on its two sides. Assessment of the complete equipment connects those decisions to the safety design. Testing one side can load the other, so justify the test sequence technically. For filters and accumulators, determine governing internal volume using documented nominal dimensions. Transportability is not a blanket exemption. Pressure chambers also require assessment of the expressly excluded single-person medical type.

In practice

Give multi-chamber equipment a chamber list and unambiguous test states, including the unloaded side.

Piping, valves and nominal diameter

DN and pressure-DN product establish the appropriate table.

Assessment area	Project implementation
Group 1 gas	$p > 0.05 \text{ MPa}$ and $\text{DN} > 25$; then Table 6.
Group 2 gas	$p > 0.05 \text{ MPa}$, $\text{DN} > 32$ and $p \cdot \text{DN} > 100 \text{ MPa} \cdot \text{mm}$.
Group 1 liquid	$p > 0.05 \text{ MPa}$, $\text{DN} > 25$ and $p \cdot \text{DN} > 200 \text{ MPa} \cdot \text{mm}$.
Group 2 liquid	$p > 1 \text{ MPa}$, $\text{DN} > 200$ and $p \cdot \text{DN} > 500 \text{ MPa} \cdot \text{mm}$.
Boundary	Record sections, materials, flanges, bellows and installation.

The rows show entry criteria for the stated piping and valve groups, not the category itself. Determine category afterwards using Tables 6 to 9. Safety devices and certain accessories require their own Annex rules. Pipe supports and suspension systems have a separate exclusion. Industrial piping is not an excluded transmission line simply because it is long. For site-welded sections, define manufacturer responsibility, test boundaries and a possible Scheme 5d route early.

In practice

DN denotes nominal diameter. A 10-mm instrument tube is not automatically DN 10 or a complete assembly.

Steam boilers and hot-water boilers

Include heat input and protection against critical operating states.

Assessment area	Project implementation
Entry	Volume > 0.002 m ³ ; steam above 0.05 MPa or hot water above 110 °C.
Firing	Separately identify fired vessels with volume > 0.002 m ³ .
Category	Apply Table 5 using pressure, volume and pressure product.
Protection	Control water level, pressure, temperature and energy input.
Records	Connect boiler passport, control logic, test evidence and limits.

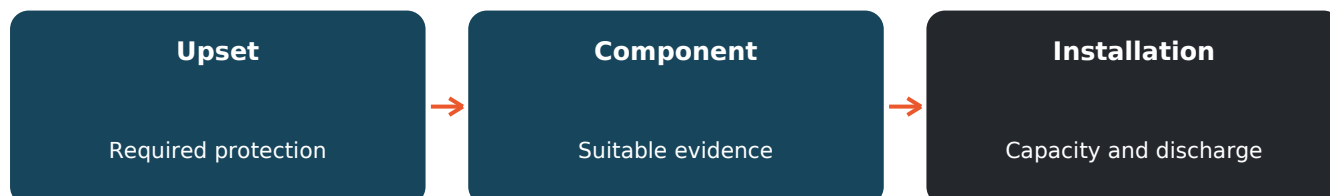
Assess a hot-water system by more than operating pressure; temperature and purpose matter. Also check exclusions for building hot-water heating systems. Boiler instructions and protection design must address foreseeable faults such as low water or failed heat removal. Gas burners and electrical equipment may involve further regulations requiring separate scope assessment. A separately certified protective component does not establish adequate protection of the complete boiler through its installation and settings.

In practice

Document the safety chain and shutdown conditions before testing and reconcile them with manufacturer instructions.

Safety devices and pressure-bearing parts

Annex rules prevent underclassification of accessories.



Product-specific assessment · schematic explanation

Assessment area	Project implementation
Default	Specified elements, accessories, indicating and safety devices: Category 4.
Device link	When manufactured for specific equipment, its category may govern.
Qualification	Distinguish piping valve, safety device and measuring instrument.
Performance	Demonstrate response, capacity, fluid and operating limits.
Installation	Assess orientation, discharge path, back pressure and isolation possibilities.

A safety function must not be equated with an ordinary isolation valve. The Annex assigns the specified accessory and safety products to Category 4 by default; the specific-equipment assignment needs traceable justification. A pressure gauge qualifying as a legal measuring instrument may require different qualification from a regulation-defined indicating device. Check valve evidence against actual fluid, pressure, temperature and required relieving capacity. Mechanical connection compatibility alone is insufficient.

In practice

Assess component evidence and installation design separately, then connect them.

Applying exclusions correctly

An exclusion applies to the defined article and purpose.

Assessment area	Project implementation
Networks	Transmission and specified distribution lines; station equipment separately.
Special use	Nuclear energy, specified ships, aircraft and defence.
Machine parts	Listed pump, turbine and other casings without a standalone vessel.
Other products	Specified aerosol devices, flexible shells, silencers and siphons.
Later exclusions	Specified water networks, building heating, engine fuel systems and pipe supports.

The list provides orientation; the complete Section I point 3 wording and amendments govern. Neither every pipe nor every pump is universally covered or excluded. A casing may be excluded while a separately supplied vessel in the same plant still requires assessment. The ship exclusion concerns equipment specially designed for that use. The water-network exclusion depends, among other matters, on the defined network function and temperature threshold. Document an exclusion with purpose, drawing and legal provision; assess other TRs and national operating duties separately.

In practice

A written qualification assessment is more defensible than a blanket “certification not required” statement.

PED and CE: which evidence helps?

European records provide a basis rather than automatic EAC recognition.

Assessment area	Project implementation
EU framework	Current Pressure Equipment Directive 2014/68/EU; 97/23/EC is its predecessor.
EAEU framework	TR CU 032/2013 with its own categories, schemes and records.
Reuse	Assess drawings, calculations, material and testing records.
Gaps	Compare standards status, organisation eligibility, language and identity.
Category	Do not transfer PED classification into the EAEU file without review.

The sector page describes similarities with the European directive. For current projects, 2014/68/EU is the relevant European basis. Technical similarities ease dossier work but do not create universal mutual approval. Assess an existing EU declaration together with its technical evidence. Add marking, passport and applicant requirements under the EAEU procedure. A notified-body report can be technically useful; acceptance and any additional testing depend on the selected scheme and competent actors.

In practice

A gap analysis between PED records and TR 032 requirements is the appropriate starting point.

Pressure equipment within machinery and plants

Define system boundaries and regulatory interfaces expressly.

Pressure

TR 032 and equipment file

Machinery

Function and further TRs

Integration

Final assembly and safety

Product-specific assessment · schematic explanation

Assessment area	Project implementation
TR 032	Covered pressure equipment, accessories and pressure-related risks.
TR 010	Assess machinery functions and risks of the actual assembly.
TR 004 / 020	Electrical safety and EMC according to each regulation's scope.
TR 012	Assess hazardous-area use and Ex equipment separately.
Integration	Connect components, controls, safety and site-built joints.

Pressure-related evidence does not automatically cover mechanical, electrical or explosion risks of the complete assembly. A machinery declaration likewise does not universally fulfil pressure-vessel requirements. The integrator describes what is separately placed on the market and who controls final assembly and safety functions. A conformity matrix assigns applicable regulations and records to every item. Use combined documentation only where route, applicant and competent body lawfully cover the full scope. Component certificates do not close integration assessment.

In practice

Review P&ID, electrical drawings and supply boundaries together; interfaces must not disappear between orders.

Declaration or certificate?

Category and manufacturing model determine the conformity form.

Category 1 / 2

Normally declaration

Category 3 / 4

Normally certificate

On site

Special rules / 5d

Product-specific assessment · schematic explanation

Assessment area	Project implementation
Category 1 / 2	Normally an EAC declaration for covered equipment and elements.
Category 3 / 4	Normally EAC certification by an eligible accredited body.
On site	Special declaration rules for completion using permanent joints.
Scheme	Connect supply form and product type to prescribed schemes.
Outcome	Registered evidence with precisely identifiable product scope.

The familiar mapping “declare 1 and 2, certify 3 and 4” is a useful starting point. Special rules for manufacturing or final completion at the place of use supplement it. Purchasing requirements cannot arbitrarily substitute the legally prescribed conformity form. A declaration is not less binding: the eligible applicant assumes responsibility for conformity and evidence. A certificate is the competent body’s decision under the prescribed procedure. Testing scope and record quality matter in both cases.

In practice

Before ordering, link conformity form and scheme to the product list and category in writing.

Declaration schemes 1d to 5d

Not every scheme covers every product type and supply form.

Assessment area	Project implementation
1d	Series, equipment Categories 1 / 2; production control and sample tests.
2d	Batch or individual equipment Categories 1 / 2; sample tests.
3d	Series of specified elements/accessories Categories 1 / 2; accredited laboratory.
4d	Batch of such elements/accessories; accredited laboratory.
5d	On-site manufacture with permanent joints and specific qualifying conditions.

For 1d and 2d the technical text provides testing in a testing laboratory or accredited laboratory; assess requirements of the actual registration and evidence route separately. An accredited laboratory forms part of 3d and 4d. Even applicant-supported evidence must cover every applicable requirement. Series production requires traceable production control; identify a batch by quantity and identifying features. Adopt and register the declaration rather than merely signing and filing it. Scheme 5d requires the additional steps on page 19.

In practice

Do not choose solely by cost. Equipment, elements and accessories receive different treatment in the regulation.

Certification: 1c, 3c, 4c and 7c

Supply form determines samples, production analysis and ongoing support.

Assessment area	Project implementation
1c	Series: sample tests, production analysis and surveillance.
3c	Defined batch: sampling and testing, then decision.
4c	Individual unit: identity and testing of that actual item.
7c	Planned serial/mass production and modifications: type assessment.
Actors	Eligible certification body and accredited testing laboratory.

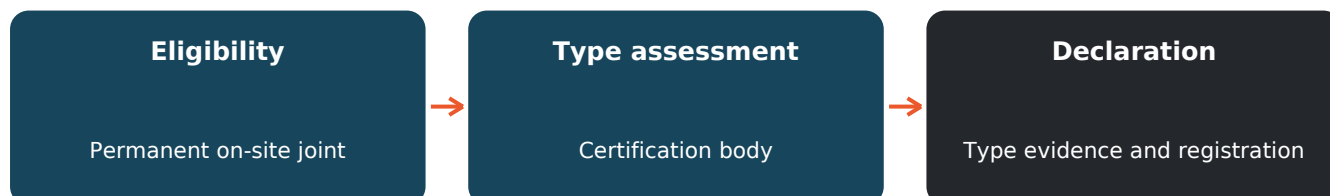
The notation 1c corresponds to Russian Scheme 1c; some translations use 1s. The described procedure is decisive. Under 1c production is assessed and certified manufacture is monitored during validity. Under 3c and 4c the named batch or unit limits scope. Under 7c assess the type, for example through a representative sample or the prescribed combination of documentation and component assessment; production analysis remains part of the route. A general ISO 9001 certificate does not automatically replace these steps.

In practice

State scheme and covered production sites expressly in the quotation; a later new site is not automatically included.

Scheme 5d: completion at the place of use

A special route with type assessment and a registered declaration.



Product-specific assessment · schematic explanation

Assessment area	Project implementation
Subject	Categories 1 to 4, manufactured or completed on site.
Joining	Permanent joints form part of manufacture or completion.
Condition	Full pre-installation testing impossible or specified standards not applied.
Type assessment	Certification body examines the type and adequacy of evidence.
Outcome	Type certificate forms part of the subsequently registered declaration.

Scheme 5d is neither a general waiver of testing nor an arbitrary alternative for every Category 3 or 4 item. The case must satisfy point 46. The applicant maintains production control and compiles the dossier. The certification body assesses the type using the prescribed route; a positive type certificate is an integral part of the declaration but does not replace it. For an assembly with site-welded piping, define joining responsibility, inspection points, final configuration and acceptance records before installation begins.

In practice

Do not offer the 5d type evidence as an ordinary EAC series certificate or use it alone to release shipment.

Applicant and EAEU representation

Distinguish eligible regulatory role from contractual rights.

Assessment area	Project implementation
Location	Eligible legal entity or individual entrepreneur in a member state.
Series	Manufacturer or eligible authorised person under the scheme.
Batch / unit	A seller may qualify under schemes permitting that role.
Contract	Responsibility, file access, authority communication and changes.
Distribution	Applicant status alone does not automatically create exclusivity.

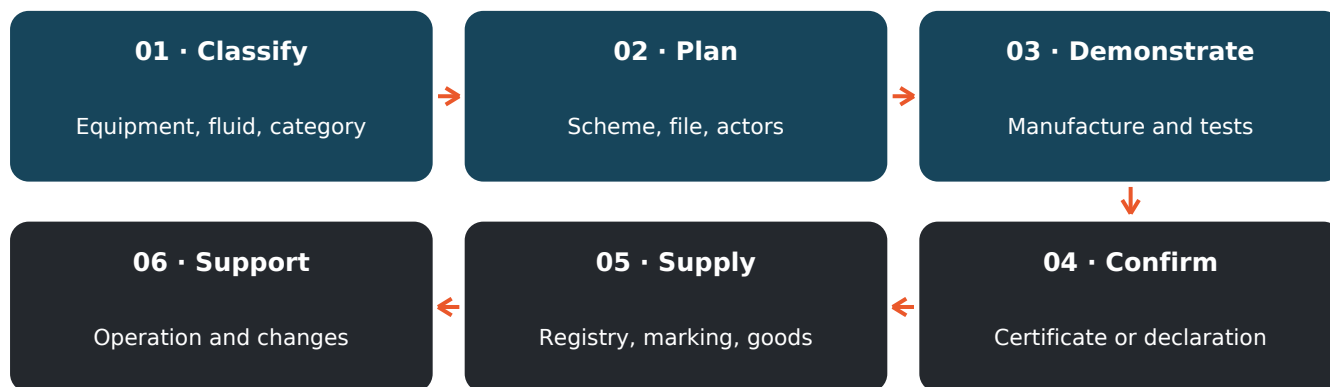
A foreign manufacturer needs an eligible local role for the actual procedure. Check authorisation, manufacturer agreement and ability to fulfil duties. The sector page highlights dependence on a customer acting as representative; dossier access and contractual commitments are practically decisive. This does not establish an automatically exclusive statutory distribution right. Agree distribution rights and document use expressly. The representative must coordinate changes and surveillance effectively. A company name in a register alone does not provide organisational assurance.

In practice

Before registration, agree who holds the file and how replacement or additional distributors will be managed.

Workflow and release milestones

Coordinate dependent steps using clear entry criteria.



Assessment area	Project implementation
Classify	Approve type, parameters, exclusion, category and supply model.
Plan	Select scheme, actors, dossier and test scope.
Demonstrate	Coordinate calculations, manufacture, samples and testing.
Decide	Complete body decision or declaration registration.
Supply	Match document, goods, marking and import particulars.

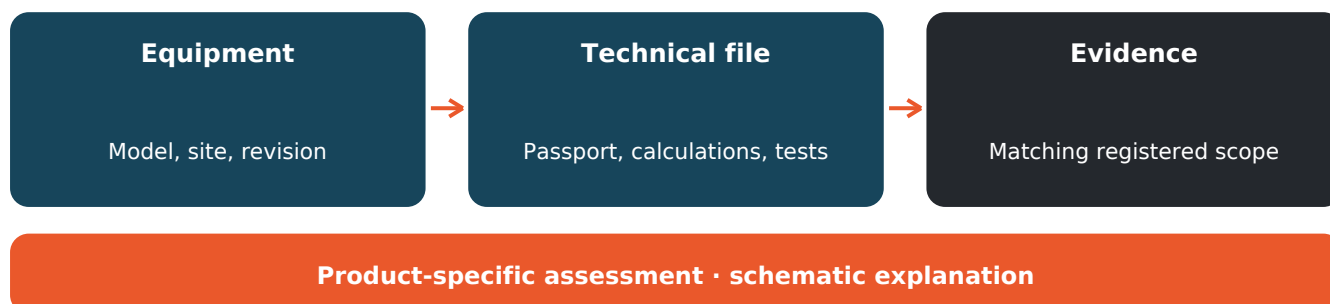
Parallel work accelerates only when product version and classification are stable. A later material or volume change can affect reports and category. Maintain an action list with owner, deadline, dependency and evidence. Testers and production assessment should receive the same approved version. Answer queries with precise document references. Release marking and shipment after documented successful completion. Commissioning remains a further milestone involving operator duties rather than merely the import date.

In practice

Maintain three status fields: technical evidence, registered EAC evidence and operational release.

The technical project dossier

Identity and technical evidence must agree throughout the file.



Assessment area	Project implementation
Identification	Product list, drawings, manufacturer, sites and serial numbers.
Operation	Equipment passport and instructions with limiting parameters.
Design	Safety justification, strength and relieving capacity.
Manufacturing	Materials, welding, heat treatment, NDT and qualifications.
Assessment	Reports, standards list, component evidence and approvals.

Point 45 identifies the documentation basis for conformity assessment. Not every general document requires a separate title, but every required content item needs traceable coverage. A pressure-vessel passport is the vessel-specific equipment passport; other equipment needs appropriate passport information. Maintain an index with revision, language, model coverage and approval. A translated drawing with obsolete parameters can make the entire file inconsistent. Assess existing material and component records against actual coverage.

In practice

Before filing, cross-check product list, calculations, passport, report and nameplate line by line.

Pressure-vessel and equipment passports

The passport connects technical identity with safe operating limits.

Assessment area	Project implementation
General	Manufacturer, date, serial number and intended service life.
Parameters	Operating, design and test pressure; temperatures and fluid.
Construction	Volume, principal parts, materials, connections and drawings.
Protection	Safety devices, valves and relevant measuring equipment.
Lifecycle	Maintain traceable change, inspection and operating information.

The regulation differentiates contents for vessels, boilers, cylinders, valves and other equipment. A generic technical passport lacking appropriate mandatory data is insufficient. Vessel information includes corrosion allowance, minimum wall temperature and principal parts. Valve particulars additionally include DN, pressure rating, tightness and connection, for example. Serial number connects passport and physical unit. Series records can contain shared information, but unit-specific parameters and test data must remain identifiable. Supply the passport with the goods in the required language.

In practice

Choose an equipment-specific passport template and complete it against actual manufacture.

Operating instructions and technical translation

Safe use needs clear limits and specific instructions.

Assessment area	Project implementation
Installation	Positioning, connections, supports and permitted conditions.
Operation	Startup, normal operation, shutdown and critical states.
Maintenance	Depressurisation, cleaning, inspections and safe repair.
Limits	Fluid, pressure, temperature, service life and rejection criteria.
Language	Russian version and additional national language duties where applicable.

Review translation technically rather than merely polishing language. Units, pressure types, warning levels and operating versus test pressure are particularly important. Figures, circuit diagrams and labels belong to translation scope. Address safe access, residual pressure, hot surfaces and misuse. Recurring tasks must distinguish operator actions from work requiring specialists. CE instructions provide a basis; add missing EAEU passport references and local particulars. Link every language version to a controlled revision.

In practice

Warnings must neither contradict nor replace a required design protection measure.

Safety justification and risk file

Control risks traceably; a certificate does not make them disappear.



Assessment area	Project implementation
Hazards	Overpressure, rupture, release, temperature and chemical effects.
Scenario	Normal operation, faults, transport, installation and maintenance.
Controls	Connect design, protection, assessment and user information.
Residual risk	Explain remaining risks and operating limits traceably.
Evidence	Substantiate requirements through calculations, reports or validated functions.

Safety justification records selected technical solutions and their evidence. A blanket assertion that every operating risk has been completely eliminated is technically unsound. Include corrosion, fatigue, erosion, vacuum, blocked outlets and foreseeable misuse. Explicitly identify interfaces with electrical control and explosion protection. Reference actual drawings, calculations and tests. Changes to fluid or permitted temperature require assessment of whether existing measures remain sufficient.

In practice

A risk without a control and evidence remains open even when a document is already titled “safety assessment”.

Strength calculations and design basis

Pressure is only one of the loads to consider.

Operation

Pressure, temperature, cycles

Other loads

Testing, transport, connections

Strength

Justified load combination

Product-specific assessment · schematic explanation

Assessment area	Project implementation
Basis	Identify design pressure, wall temperature, fluid and material.
Loads	Internal/external pressure, weight, wind, seismic and connection loads.
Life	Cycles, fatigue, creep and corrosion/erosion allowance.
Connections	Welds, flanges, bolts, nozzles and supporting structure.
Evidence	Traceable methods, inputs, allowable values and results.

Calculations follow a justified design code and documented load basis. An FEA image alone establishes neither allowable stresses nor correct boundary conditions. At high temperature assess time-dependent properties and defined service life. Pressure testing can create governing loads different from operation, such as test-fluid mass or differential pressure. Results must agree with drawings, minimum thickness, tolerances and material records. Assess nozzle or support changes before manufacturing.

Decision No. 96/2019 distinguishes voluntarily applied standards for meeting safety requirements from standards for testing, measurement and sampling procedures. Check the precise edition, equipment applicability and current listing of each standard. Assess a European test report for its specific usability; naming an EN standard alone does not establish automatic acceptance.

In practice

Do not treat calculations as an isolated PDF: include drawing revision, material version and load-case list.

Materials and traceability

Actual manufacture must achieve the material properties assumed in design.

Assessment area	Project implementation
Suitability	Assess temperature, fluid, corrosion and brittle failure.
Certificate	Check grade, heat, condition and test results.
Transfer	Preserve identity through cutting, forming and manufacture.
Purchases	Assess semi-finished goods, fasteners, seals and critical accessories.
Change	Substitute material only after documented technical assessment.

A similar material designation does not automatically establish equivalence. Compare composition, strength, toughness, heat-treatment condition and design-code conditions. EN 10204 records can provide important information; assess suitability against actual evidence duties. Heat identification must remain traceable to the relevant part. Seals and non-metallic parts also matter for aggressive fluids. Supplier changes, new welding consumables or different heat treatment may require reassessment and additional testing.

In practice

A material list linking drawing item, certificate number and heat prevents later traceability gaps.

Welding and permanent joints

Procedures, personnel and manufacturing evidence form one connected package.



Assessment area	Project implementation
Procedure	WPS and defensible procedure qualification for actual scope.
Personnel	Qualification by process, material, dimensions and position.
Manufacturing	Preparation, consumables, preheat and process parameters.
Heat treatment	Required condition, records and effect on properties.
Records	Traceable weld map, inspection points, repairs and approvals.

Qualifications must support actual manufacturing scope; one welder certificate does not cover all materials and processes. Confirm accepted qualification form under the relevant standards and assessment route. For site joints distinguish workshop and installation responsibilities clearly. Repair welds require an approved method and appropriate reinspection. Brazing and other permanent joining processes require assessment according to their safety function. Weld identification links manufacturing records and NDT reports to the actual unit.

In practice

Approve welding documentation before installation begins rather than collecting it after final pressure testing.

Non-destructive testing and quality

Inspection scope and acceptance must follow design and standards.

Assessment area	Project implementation
Plan	Consider joint type, loading, material and inspection timing.
Method	Select suitable visual, surface and volumetric methods.
Personnel	Verify competence and permitted qualification scope.
Report	Record joint, method, conditions, findings and evaluation.
Deviation	Track repair, repeat inspection and final approval.

NDT detects defined defect types within method limits; it is not a universal proof of flawless manufacture. Choose methods such as VT, PT, MT, UT or RT by geometry and material. The regulation requires inspection and reporting records for relevant permanent joints; define scope and evaluation rules technically. A laboratory logo without adequate scope does not demonstrate competence. Maintain traceability of findings and acceptance decisions separately. Passing pressure testing does not automatically replace prescribed weld inspection.

In practice

Agree the inspection plan and weld list with the responsible assessment organisation before manufacturing.

Pressure testing, leak tightness and reports

Justify test pressure and test medium technically.

Assessment area	Project implementation
Strategy	Describe strength and leak testing separately.
Parameters	Define test pressure, temperature, duration and acceptance criteria.
Safety	Control test area, pressurisation, stored energy and depressurisation.
Instruments	Suitable range, accuracy and current evidence.
Report	Document unit, configuration, method, result and approval.

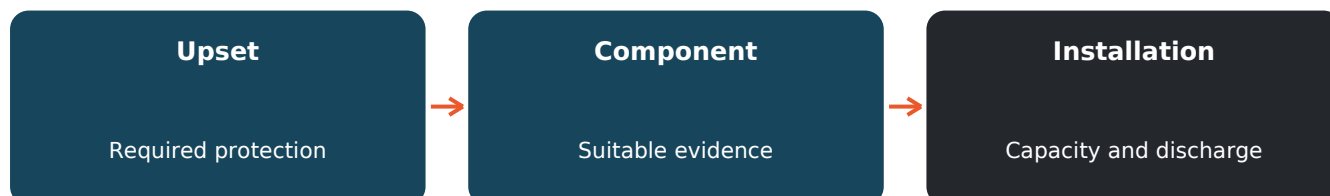
A generic multiplier of operating pressure is insufficient test planning. Applicable standard, material properties, temperature and design determine the programme. Pneumatic tests store substantial energy and require a justified safe procedure; do not select them as a simple alternative to hydraulic testing without assessment. Multi-chamber equipment requires consideration of differential pressure and loading on the other side. EAC assessment may use existing factory reports where scheme, identity and evidence acceptance allow; otherwise supplementary tests are needed.

In practice

Reports must identify the actual unit and approved product version.

Overpressure protection and relieving capacity

Demonstrate protective function together with installation conditions.



Product-specific assessment · schematic explanation

Assessment area	Project implementation
Scenarios	Blockage, heat input, control failure and other relevant cases.
Sizing	Determine required relieving capacity for fluid and process.
Settings	Connect set pressure and permissible limits to design.
Discharge	Assess back pressure, discharge path, temperature and safe release.
Assessment	Confirm installation, interlocking, function and maintenance conditions.

Select a safety valve using suitable evidence and actual operating conditions. Flow capacity must fit the governing upset scenario; connection size alone does not establish capacity. Pressure loss, isolation or unsuitable discharge can impair protection. Calculations for safety devices form part of the dossier basis where included in the design. Assess limits from the regulation and design code specifically rather than using a generic percentage claim without pressure and equipment context.

In practice

Maintain protective component, sizing evidence and installation assessment as three linked records.

Production analysis and type assessment

Assessment must cover actual manufacture and the product family.

Assessment area	Project implementation
Site	Define sites, activities and outsourced processes.
Product	Justify representative configuration and permitted variants.
Control	Incoming inspection, manufacture, welding, NDT and final testing.
Findings	Close deviations, actions and effectiveness traceably.
Outcome	Link assessment scope to certificate, models and production sites.

Production analysis is a concrete evidence step under the selected certification scheme. A QMS certificate supports assessment but does not automatically replace prescribed scope. For a family, describe shared design and manufacturing features; significant differences in fluid, material or pressure must not be concealed under a model name. Connect 7c type assessment to planned production. Assess a later move to another site or critical supplier technically and regulatorily before supply.

In practice

Product list, site scope and inspection plan must agree.

Samples, assessment bodies and logistics

Representation and eligible scope matter more than a quick commitment.

Assessment area	Project implementation
Organisation	Check accreditation, registry status and actual scope.
Samples	Document selection, model, serial number and critical configuration.
Test location	Agree laboratory, factory or site testing under the selected route.
Import	Sample purpose, customs records and transport conditions where relevant.
Disposition	Agree retention, return, consumption or disposal.

Large pressure equipment cannot always be shipped sensibly. Agree permitted setup and location with the body and laboratory. A factory report is not automatically the result of required accredited assessment. Maintain traceable selection and product identity; a smaller sample does not cover a larger or differently loaded design without justification. Site testing requires clear installation condition, instruments, safe conditions and reporting responsibility. Checking scope before ordering helps prevent later rejection of evidence.

In practice

Approve samples before dispatch: retain photograph, nameplate, revision and handover record.

Nameplate and technical identification

Equipment particulars must agree with registered scope and passport.

Assessment area	Project implementation
Identity	Name, type, model, manufacturer and serial number.
Parameters	Relevant pressure, temperature and performance particulars.
Time	Manufacturing date and other equipment-specific particulars where relevant.
Durability	Legibility and retention under intended operating conditions.
Comparison	Check agreement with drawings, passport, reports and EAC evidence.

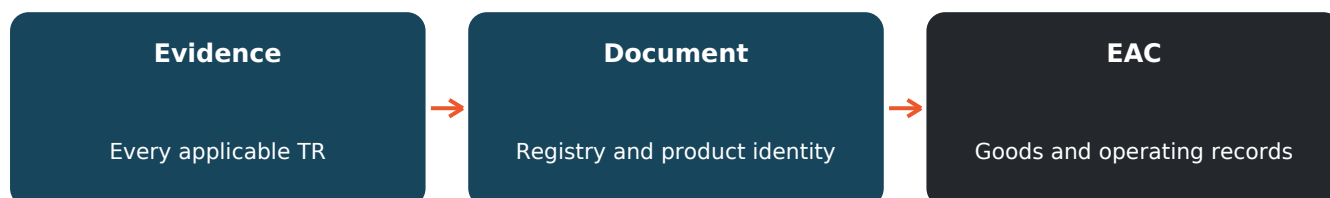
A nameplate and EAC mark serve different information purposes. Identification does not universally require every property listed on the sector page; mandatory particulars follow equipment type and applicable rules. Avoid conflicting pressure values, particularly where operating and design pressure differ. Uncontrolled shortening of model names can hinder registry checks. For multi-chamber equipment identify which chamber each parameter concerns. Approve artwork changes with technical records rather than independently of product revision.

In practice

Archive a final nameplate photograph before first supply.

EAC mark: timing and meaning

Marking follows successful assessment of all applicable requirements.



Product-specific assessment · schematic explanation

Assessment area	Project implementation
Before	Complete conformity assessment before placing the product on the market.
Unit	Mark each covered unit according to prescribed rules.
Records	Include the EAC mark in associated operating documents.
Form	Use official proportions, contrast, legibility and dimensional rules.
Completeness	Cover every applicable TR; no EAC marking under the Russia-only special route.

TR 032 requires clear marking recognisable during service life. Decision No. 711/2011 provides the official basis for the general EAC mark; minimum basic size is 5 mm. Do not alter the mark to suit a marketing design. It confirms conformity with applicable regulations requiring the mark, not a general state export permission. Special products under the Russian route in No. 107/2025 specifically do not carry the common EAC mark. National law and the actual violation determine sanctions.

In practice

Approve marking only after checking documents and registers.

Validity: series, batch and individual equipment

Evidence scope and operating life are different quantities.

Assessment area	Project implementation
Series declaration	Up to five years under point 51.
Batch declaration	No specified validity period; only the actual batch / unit.
Certificate 1c / 3c / 4c	Point 58 provides five years; actual product boundary remains binding.
Certificate 7c	Defined service life or assigned operating resource.
Operation	Assess national inspection, maintenance and life separately.

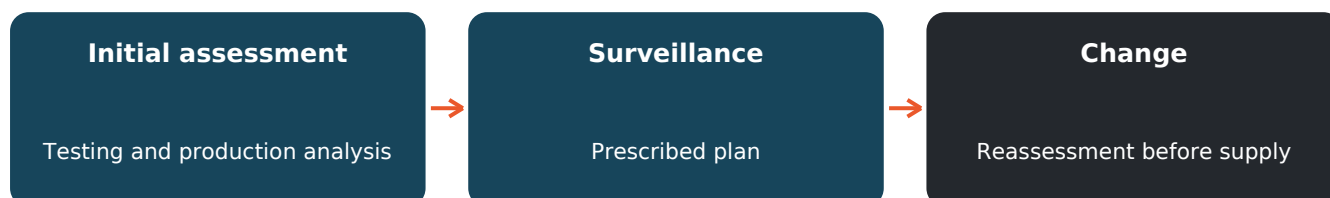
A five-year batch certificate does not permit arbitrary additional deliveries as though it were a series approval. Limited product scope remains decisive. “No specified validity period” likewise does not promise unlimited safe service life or unrestricted use rights. Changes and negative surveillance can affect evidence status. Assess validity date, registry status and goods identity together for shipment. Plan renewal or new registration before further supply; a backdated document copy is not a substitute.

In practice

State validity and permitted supply scope separately in the quotation.

Surveillance and ongoing support

Series certification requires support throughout validity.



Product-specific assessment · schematic explanation

Assessment area	Project implementation
Plan	Agree required surveillance with the certification body.
Methods	Sample tests and/or production-condition analysis.
Records	Provide reports, changes, complaints and manufacturing status.
Outcome	Observe confirmation, suspension or withdrawal of the certificate.
Budget	Include dates, travel, samples and ongoing costs in the quotation.

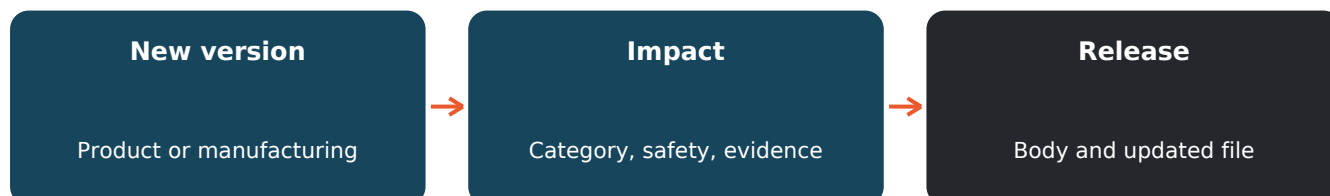
Point 53 describes surveillance of certified equipment during certificate validity. Derive scope and schedule from the scheme and agreed surveillance plan; an asserted universal interval without procedural context is insufficient. Secure recurring milestones early for series projects. A positive surveillance report confirms relevant status; negative results can trigger suspension or withdrawal. Declaration applicants retain responsibility for manufacturing conformity even where identical certificate surveillance is not prescribed.

In practice

Plan approval and support costs together; missing follow-up can jeopardise series evidence.

Product changes and new production sites

Assess changes technically and regulatorily before supply.



Product-specific assessment · schematic explanation

Assessment area	Project implementation
Design	Changed pressure, temperature, volume, DN, fluid or life?
Construction	Affected material, thickness, connection, protection or joint?
Manufacturing	New site, process, heat treatment or critical supplier?
Procedure	Notify body beforehand; resolve new tests or production analysis.
File	Update passport, calculations, reports, nameplate and registry.

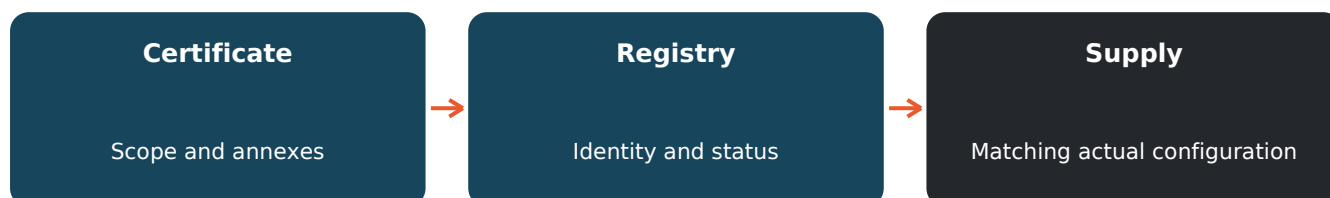
Point 54 requires prior written notification to the certification body of conformity-relevant design or manufacturing changes. The body decides on necessary new tests or production analysis. For declarations, the responsible actor assesses continued evidence adequacy and required registration steps. An unchanged trade name or old certificate number does not establish coverage of the new version. Changed fluids can also affect category and material suitability. Maintain a change file with rationale, actions and documented shipment release.

In practice

Do not supply changed goods before completing the required conformity step.

Registers and authenticity checks

Match valid status to the actual supply scope.



Product-specific assessment · schematic explanation

Assessment area	Project implementation
Document	Check number, form, scheme and applicable TRs.
Identity	Manufacturer, site, model list and document annexes.
Status	Validity, suspension, withdrawal and updated entries.
Actors	Certification body and laboratory with required scope.
Archive	Retain source and date with shipment release.

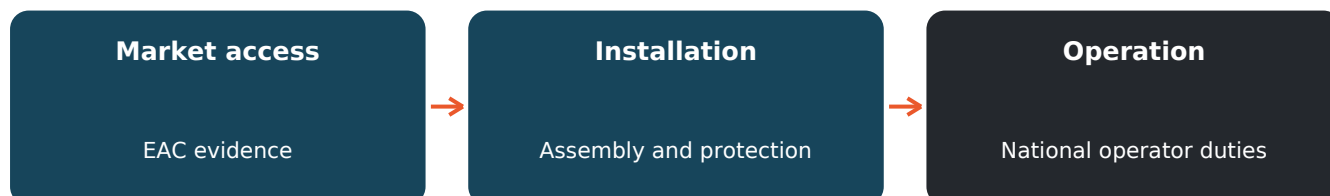
A scan or number with a similar product description is insufficient. Check the common information portal and competent national registers for the actual issuing route. Annexes can materially limit models, sites and permitted parameters. A valid record for another manufacturer cannot transfer simply through the same brand. For a batch, compare identified units and quantities. Resolve conflicting certificate, registry and goods information before dispatch. Recheck registry status immediately before a significant shipment.

In practice

Document review is a recurring release step rather than a one-time quotation formality.

Commissioning and national operator duties

EAC market access and safe operation require separate releases.



Product-specific assessment · schematic explanation

Assessment area	Project implementation
Installation	Check assembly, support, connections and protective systems.
Handover	Provide passport, instructions, test records and approved parameters.
National	Assess facility registration, operating permission and industrial safety.
Inspections	Required initial/periodic inspections and measuring-instrument duties.
Responsibility	Define operator, service, training and change release.

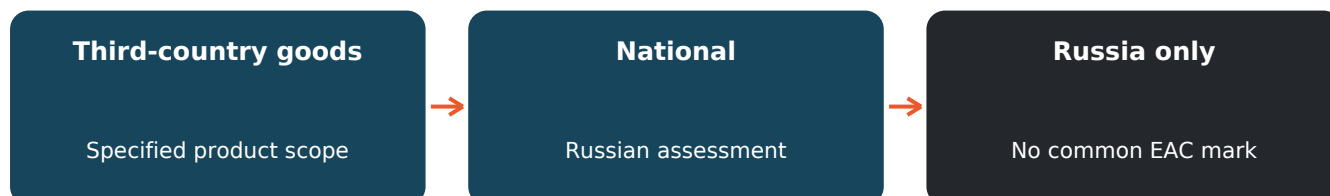
An EAC certificate is not a general permission to operate every industrial facility. The five member states can maintain national duties for hazardous facilities, pressure-equipment operation and inspection organisations. Rostekhnadzor is a relevant Russian authority area; actual obligations depend on plant and use. Do not transfer intervals or forms between countries without assessment. Repair, modification or reaching assigned service life can trigger further evaluation. Manufacturer, importer and operator should agree responsibilities in the supply contract.

In practice

Include a separate national operator and inspection status in the commissioning plan.

Russian special route through the end of 2028

A narrowly limited national procedure is not common EAC evidence.



Product-specific assessment · schematic explanation

Assessment area	Project implementation
Legal status	Decision No. 107 of 26 September 2025; effective 21 January 2026.
Period	Permitted national framework through 31 December 2028.
Goods	Specified third-country products within the stated legal scope.
Territory	Russia only; no automatic onward circulation in other member states.
Marking	No common EAC mark; document Russia-only limitation.

The amending decision concerns, among other matters, the adoption decision for TR 032. It permits national requirements and assessment under Russian government acts for specified goods manufactured in third countries and imported into Russia. Its stated scope covers specified point 2 provisions, expressly excluding piping. TR 032 EAC documents must not be issued for those products under this route. State the Russia-only limitation in the passport and assessment record. Verify coverage of actual goods and the national procedure before making commitments.

In practice

Treat the Russia-only route and an EAEU series project as separate offers with different reach.

Costs and a realistic schedule

Confirm indicative figures against actual scope.

Assessment area	Project implementation
Website figure	AC Inorms gives approximately EUR 7,000-9,000 for orientation.
Time indication	Approximately 20 working days on the sector page; confirm prerequisites.
Drivers	Category, scheme, sites, variants and available evidence.
Additional blocks	Tests, samples, travel, translation, calculations and passports.
Ongoing costs	Surveillance, changes, support and subsequent new registration.

Website indications are neither universal statutory prices nor guaranteed total durations. Complete manufacturer records, available samples and a stable product version support processing. New designs, large equipment, site manufacture or missing welding evidence change effort. A professional quotation identifies included work, assumptions, fees and rules for retesting. Separate manufacturer work, assessment availability, registration and transport in the schedule. For series projects, budget support across validity.

In practice

Set binding price and realistic delivery dates after classification and dossier review.

Worked example: two compressed-air receivers

A transparent calculation explains the path to categorisation.

100 l · 10 bar

0.1 MPa·m³ · Category 2

1,000 l · 10 bar

1 MPa·m³ · Category 4

Table 2

Air · Group 2 · 20 °C

Product-specific assessment · schematic explanation

Assessment area	Project implementation
Assumption	Naturally composed air, Group 2; steel, 20 °C.
Model A	$p = 10 \text{ bar} = 1 \text{ MPa}$; $V = 100 \text{ l} = 0.1 \text{ m}^3$.
Product A	$p \cdot V = 0.1 \text{ MPa} \cdot \text{m}^3$; Table 2 gives Category 2 for these inputs.
Model B	$p = 1 \text{ MPa}$; $V = 1 \text{ m}^3$; $p \cdot V = 1 \text{ MPa} \cdot \text{m}^3$: Category 4.
Evidence	A normally declaration; B normally certificate, scheme by supply form.

The example expressly uses design pressure and simple vessels without differing special conditions. For Model A, the Category 2 pressure-product boundary “up to and including 0.1” is decisive. Model B satisfies the Category 4 row with $p \cdot V$ above 0.3 and p above 0.4 MPa. Then assess actual material, wall temperature, accessories and other rules. Both models need suitable technical evidence; lower category does not waive safe design or complete records. Site-completed equipment would require separate assessment of the special route.

In practice

This example explains the method rather than committing a classification for an arbitrary product.

Frequently asked questions and terminology

Answer recurring questions through precise distinctions.

Is pressure above 0.5 bar sufficient?

No. Equipment type, group, state, volume or DN and exclusions jointly determine scope. Category follows afterwards.

Does CE replace EAC evidence?

No. PED records can support the dossier; fulfil EAEU classification, route, applicant and registration separately.

Can a declaration be issued without testing?

The prescribed scheme determines evidence. A signature without defensible technical evidence and registration is insufficient.

Terms for project work

Term	Meaning
Design pressure	Pressure basis for strength calculation and relevant classification.
DN	Nominal diameter; not an arbitrary geometric diameter.
Equipment passport	Product-specific identity, characteristics and safe operating information.
Batch	Clearly limited quantity of identified products.
5d type certificate	Part of the special declaration route; not standalone EAC release.

Project release checklist

Printable worksheet for status, owners and open issues.

Checkpoint	Status / owner
Equipment type and supply boundary	_____
Pressure / volume / DN / temperature	_____
Fluid / state / group	_____
Scope and exclusions	_____
Category / table / additional rules	_____
Scheme and supply form	_____
Applicant / representative contract	_____
Manufacturer and production sites	_____
Passport / instructions / safety file	_____
Strength / relieving capacity	_____
Materials / welding / NDT	_____
Test reports / production analysis	_____
Registration / registry status	_____
Nameplate / EAC / languages	_____
Surveillance / change process	_____
Import and operator duties	_____

Release rule

Mark each item complete, open or justifiably inapplicable. Record date, decision and next action in project records. Open safety or conformity matters prevent shipment release.

Enquiry form for AC Inorms

These details enable focused initial assessment.

Item	Your information
Company / contact person	_____
Manufacturer / sites / suppliers	_____
Product / models / equipment type	_____
Design / operating pressure	_____
Volume or DN per unit	_____
Minimum / maximum wall temperature	_____
Fluid / group / state	_____
Material / drawing revision	_____
Categories / previous classification	_____
Series / batch / individual unit	_____
On-site completion / welding	_____
Destinations / intended delivery date	_____
CE / reports / existing EAC	_____
Passport / instructions / calculations / NDT	_____

Attach equipment list, data sheets, P&ID;, relevant drawings, draft passport and label, report list and existing certificates with annexes. Provide confidential records using the agreed secure transfer method.

Contact

inbox@ac-inorms.com · +49 2161 9904970

Technical classification follows assessment of actual product scope.

Product and conformity matrix

One row per item; link parameters and conformity route traceably.

Characteristic	Unit A	Unit B
Tag / model / serial number	_____	_____
Equipment type / chamber	_____	_____
Design pressure MPa	_____	_____
Volume m ³ / DN mm	_____	_____
Fluid / state / group	_____	_____
Wall temperature / material	_____	_____
p·V / p·DN	_____	_____
Scope / exclusion	_____	_____
Table / row / category	_____	_____
Other TRs / evidence	_____	_____
Scheme / applicant	_____	_____
Production site	_____	_____
Passport / instructions / calculation	_____	_____
Test reports / NDT	_____	_____
Registry / validity	_____	_____
Shipment / operational release	_____	_____

Evaluation

Justify differences and assign actions to open fields. An empty cell is not exemption evidence. For assemblies add P&ID; reference, final-installation responsibility and supplier interfaces.

Sources and regulations archive

Linked foundations for classification, conformity and sound project planning.

[1] AC Inorms: EAC certification for pressure equipment

[Open original source](#)

[2] AC Inorms: regulations archive

[Open original source](#)

[3] EEC: TR 032, original and current amendment overview

[Open original source](#)

[4] EEC: TR 032, official adoption Decision No. 41/2013

[Open original source](#)

[5] EAEU: amendment No. 49/2021, including annex

[Open original source](#)

[6] EAEU: amendment No. 137/2023, including exclusions

[Open original source](#)

[7] EAEU: standards lists under No. 96/2019

[Open original source](#)

The [regulations archive](#) is a navigation aid. Alongside [TR CU 032/2013](#), use only regulations actually applicable to the project. Adoption decisions, amendments, standards lists and national operator duties are different source levels.

Further sources and image credits

Linked foundations for classification, conformity and sound project planning.

[8] EAEU: Russian special route under No. 107/2025

[Open original source](#)

[9] EUR-Lex: Pressure Equipment Directive 2014/68/EU, current text

[Open original source](#)

[10] EAEU: information portal and conformity registers

[Open original source](#)

[11] EEC: EAC mark, Decision No. 711/2011

[Open original source](#)

[12] Rostekhnadzor: national supervision and pressure-equipment operation

[Open original source](#)

[13] AC Inorms: German document version of TR CU 032/2013

[Open original source](#)

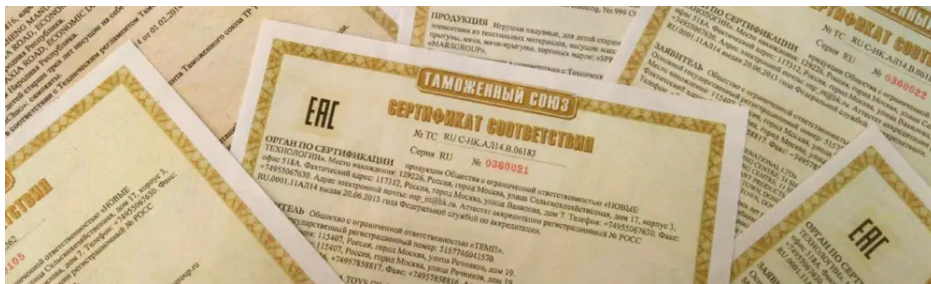
[14] AC Inorms: technical documentation and services

[Open original source](#)

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Your pressure-equipment project with AC Inorms

From complete specifications to a defensible conformity strategy.



Documentation and market access · Image source: AC Inorms

AC Inorms supports classification, route planning and coordination of required evidence for pressure equipment and assemblies. Actual product scope, intended fluids and destinations provide the basis. These establish documentation gaps, suitable assessment organisations and a realistic workflow. Connect series projects to required surveillance and change processes.

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For your first contact

Use the enquiry form on page 46. Send equipment list, design pressure, volume or DN, fluid, destinations and available drawings and reports. For assemblies add the P&ID; and installation scope.