

**HOT TAPPING AND LINE STOPPING
EQUIPMENT SPLIT TEES
CUSTOMIZED EQUIPMENT**

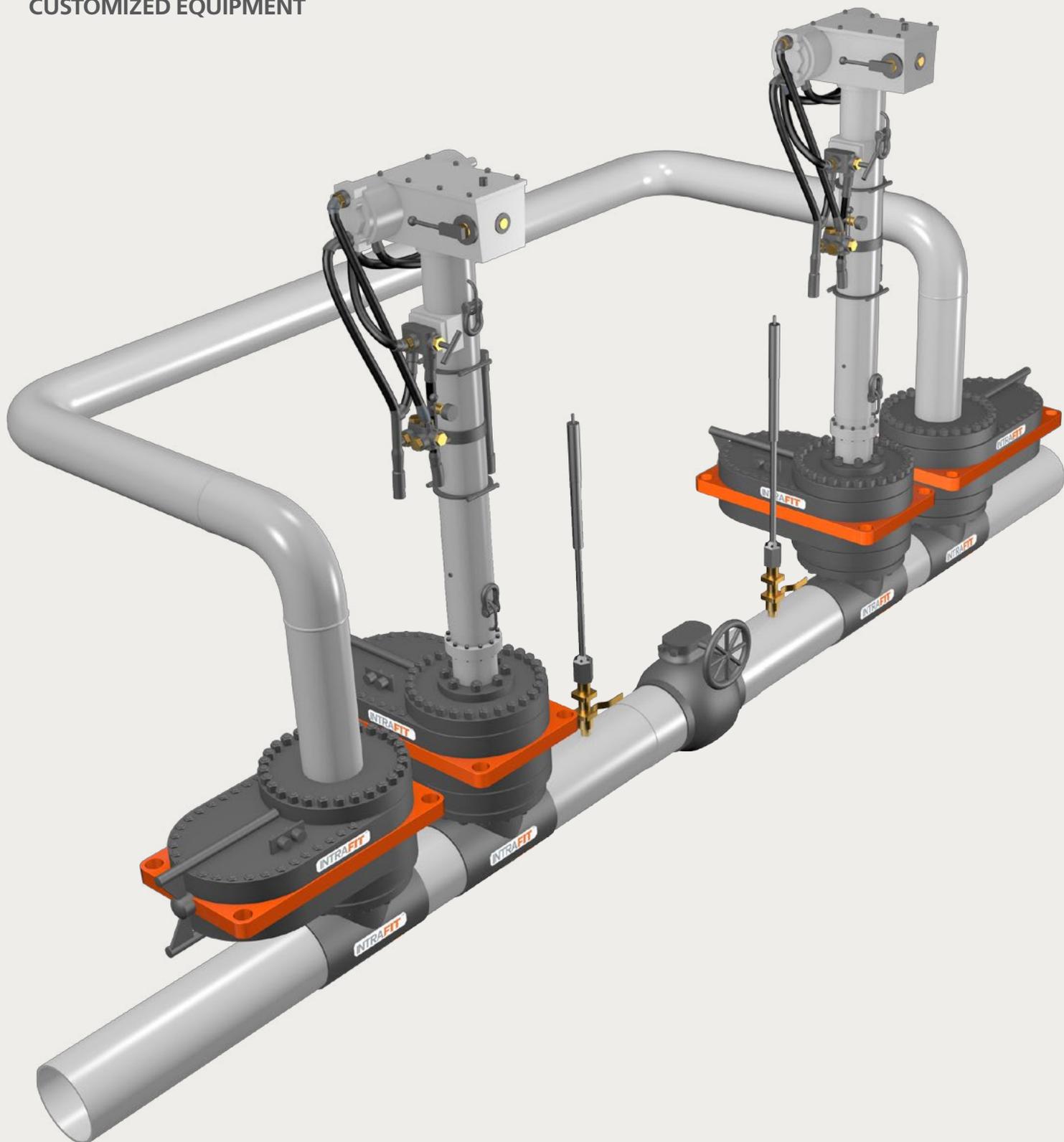
INTRAFIT is the leading Russian manufacturer of components for online repair and maintenance of pipelines and other facilities in oil and gas, chemical, petrochemical and other industries.

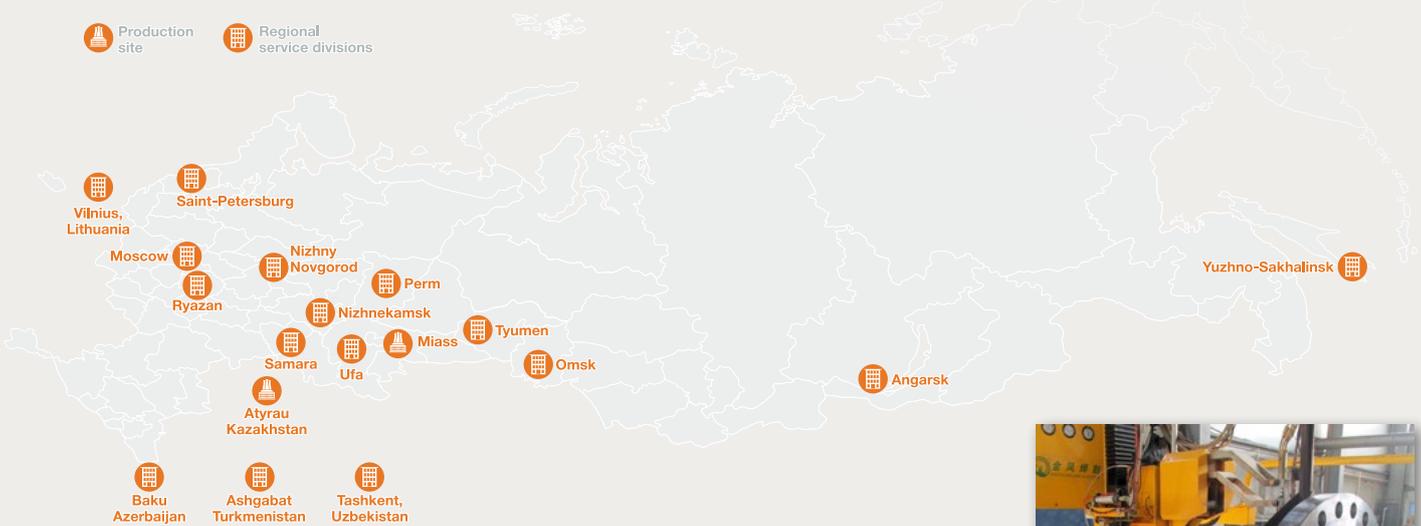


with support of



**INTRAFIT IS THE FIRST RUSSIAN
MANUFACTURER OF HOT TAPPING AND
LINE STOPPING EQUIPMENT, SPLIT TEES,
CUSTOMIZED EQUIPMENT**





**ABOUT INTRAFIT
MANUFACTURE**

стр. 4-11



15
regions of Russia and
CIS countries

400+
PROJECTS

**HOT TAPPING AND LINE
STOPPING EQUIPMENT**

стр. 12-16

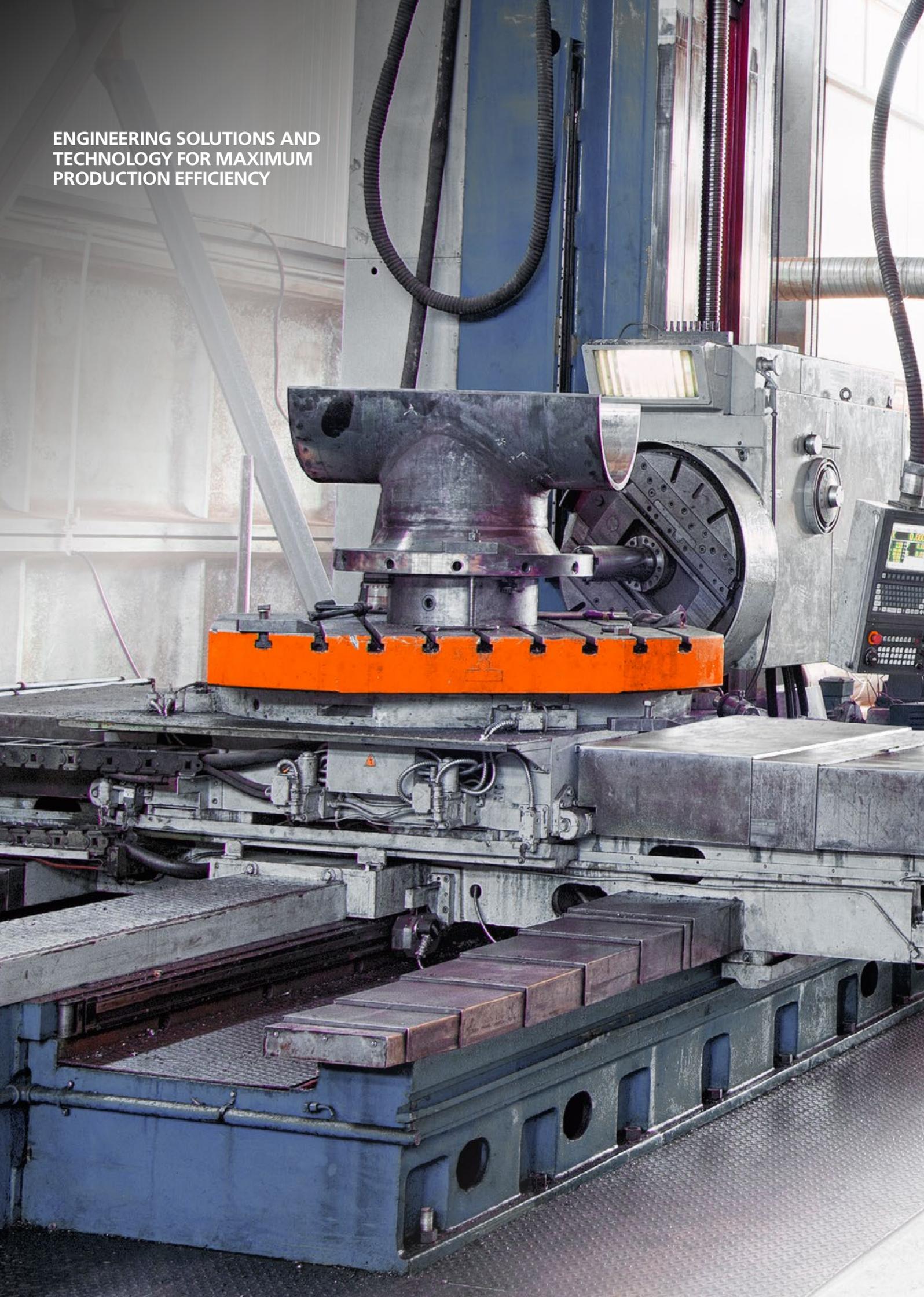


**REPAIR CLAMPS FOR
ON-LINE LEAK SEALING**

стр. 17



ENGINEERING SOLUTIONS AND
TECHNOLOGY FOR MAXIMUM
PRODUCTION EFFICIENCY





ABOUT COMPANY

INTRAFIT is a company producing elements of pipelines, equipment and component parts for on-line repair of pipelines at oil and gas, chemical and other manufacturing industries.

INTRAFIT provides a variety of high quality products - equipment for hot tapping and line stoping services, pipeline details, repair components, clamps, tees, housings and sandwich valve.

- Established in 2007
- Enterprise area - 14550 sq.m.
- ISO 9001 Quality Management System
- Fully integrated production system, 27 production machines
- Lifting equipment with capacity up to 32 tons
- 110 employees
- Incorporated by INTRA Services Company

Intra Services Company is a unique Russian company providing a whole range of comprehensive on-site and on-line pipeline repair and maintenance services.



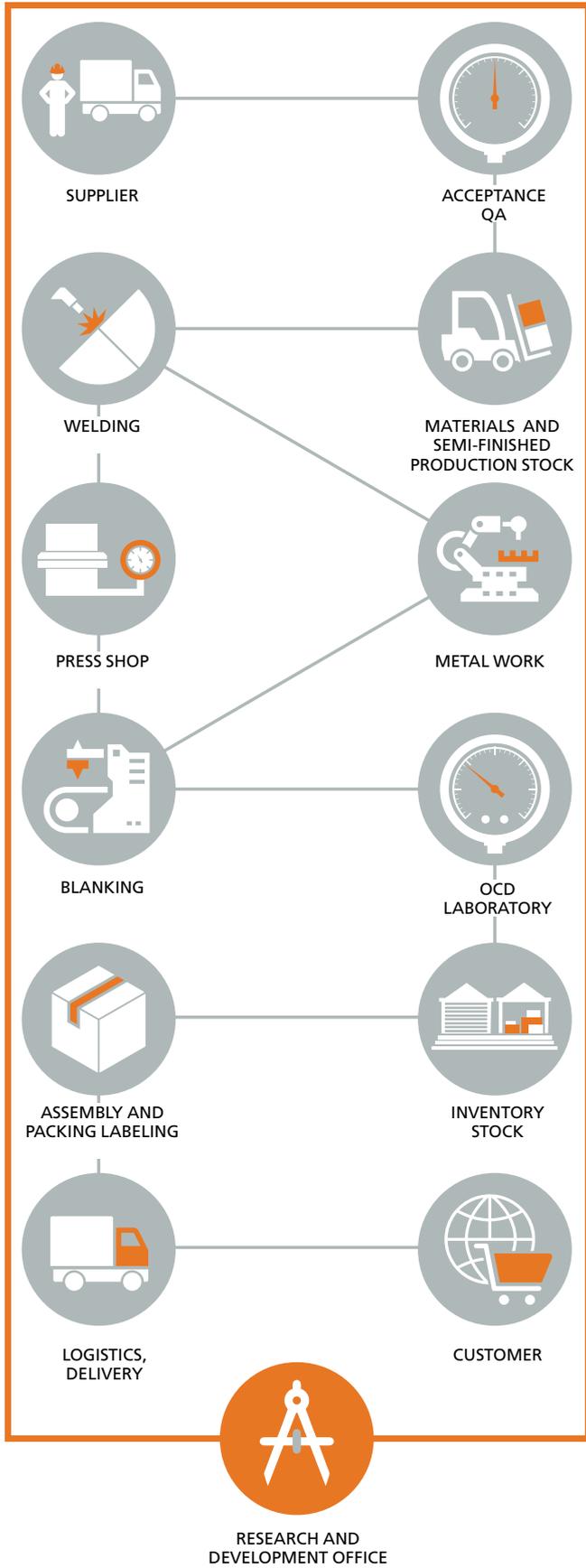
ABOUT INTRA SERVICES COMPANY, LLC

- Established in 2007
- 570+ employees
- A wide network of representative offices in 15 regions of Russia and CIS countries

SERVICES

- ON-LINE SERVICES - Hot tapping and line stopping services, On-line leak sealing, Composite repair for recovery of structural integrity of damaged pipelines
- JOINT INTEGRITY SOLUTIONS — Supervising of repairs and assets construction, Intrasoft Integrity Management System (INTRASOFT) -reliability management system, including software, engineering, and related services with database updated and maintained online
- ON-SITE SERVICES – a wide range of pipeline repair and maintenance job, on-site machining, pipeline purging and equipment chemical cleaning

CAPACITY





INTRAFIT™

MULTI-PHASE QUALITY ASSURANCE



NON-DESTRUCTIVE TESTING

- **X-RAY**
Inspection of welding seams for detection of hidden internal defects.
- **ULTRASONIC TESTING (UT)**
Detection of integrity loss like cracks, pores, slag inclusions.
- **HYDROTESTING UP TO 100 MPa**
Detection of leaks through cracks and sealing defects in joints, strength testing of structures and connections.
- **LIQUID PENETRANT TESTING**
Inspection with penetrating materials for detection of loss of integrity in the main material of machined part ends, allows detection of defects like delamination, cracks showing on the surface of the main material.
- **MAGNETIC PARTICLE TESTING**
Detection of surface and under surface loss of metal integrity, defects growing deep inside products.



DESTRUCTIVE TESTING

- Testing of mechanical properties -80 through +250C (-112 through 500F);
- Composition analysis; Spectral method;
- Corrosion tests; Dynamic tests.



CERTIFICATES, LICENSES, PERMITS

Quality assurance is one of the key elements of the production process at INTRAFIT plant. Product compliance with a range of Russian and international standards is guaranteed with periodic certification and technical audits.

CERTIFICATES:

- TUV Thüringen ISO 9001:2008
- MSS standard practice
- Conformance certificates
- Customs Union certificates
- ASME
- Gazprom, LUKOIL, Shell, Saipem, AgipKCO, Chevron, Kaztransoil, Rosneft

FIELD TRIALS, CORPORATE COMPLIANCE CERTIFICATION:

- Gazpromneft
- Rosneft
- LUKOIL
- Kaztransoil
- Makeyev Rocket Design Bureau.
- Transregional gas distribution companies



PRIMARY DESIGN DATA

FOR COUNTRIES OF THE CUSTOMS UNION

- TO Gazprom 2-2.3-116-2007 Split Tees
- TU 3647-004-82914072-2011 Pipeline elements for pressures up to 1000 bar
- TU 3647-005-82914072-2013 Weldolets
- TU 1469-005-82914072-2013 Pipeline spools
- TU 1469-006-82914072-2013 Chrome-molibdenum pipeline elements
- TU 1469-007-82914072-2013 Corrosion resistant pipeline elements
- TU 1469-008-82914072-2013 Low alloy pipeline elements
- TU 1469-010-82914072-2014 Composing pipeline spools
- TU 1469-011-82914072-2014 Repair parts
- TU 1469-011-82914072-2014 Repair split pipeline elements
- TU 3741-012-82914072-2014 Sandwich valves
- TU 1469-013-82914072-2014 Protection sleeves
- TU 4834-016-82914072-2015 Hot tapping machines and online line stopping plugs
- TU 3918-018-82914072-2016 Cutters and Drills
- TU 4834-019-82914072-2015 Accessories for hot tapping and line stopping up to 118 bar

FOR ALL OTHER COUNTRIES

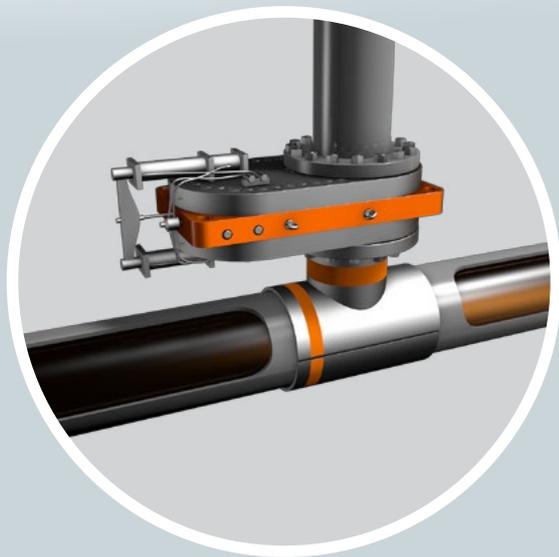
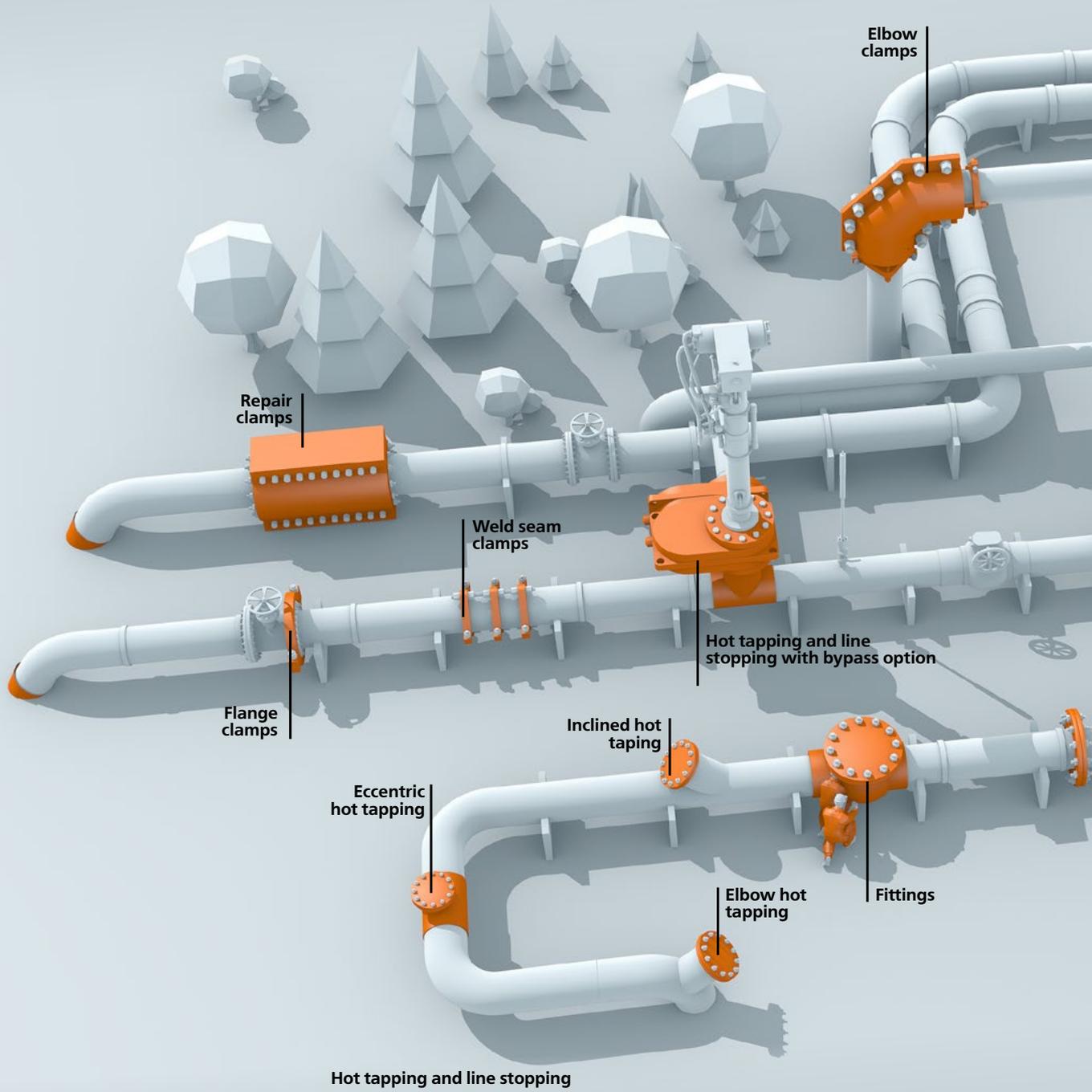
- Standard ASME B31.8/4
- Design pressure (bar) Class 2500 (420 bar)
- Design temperature (°C)

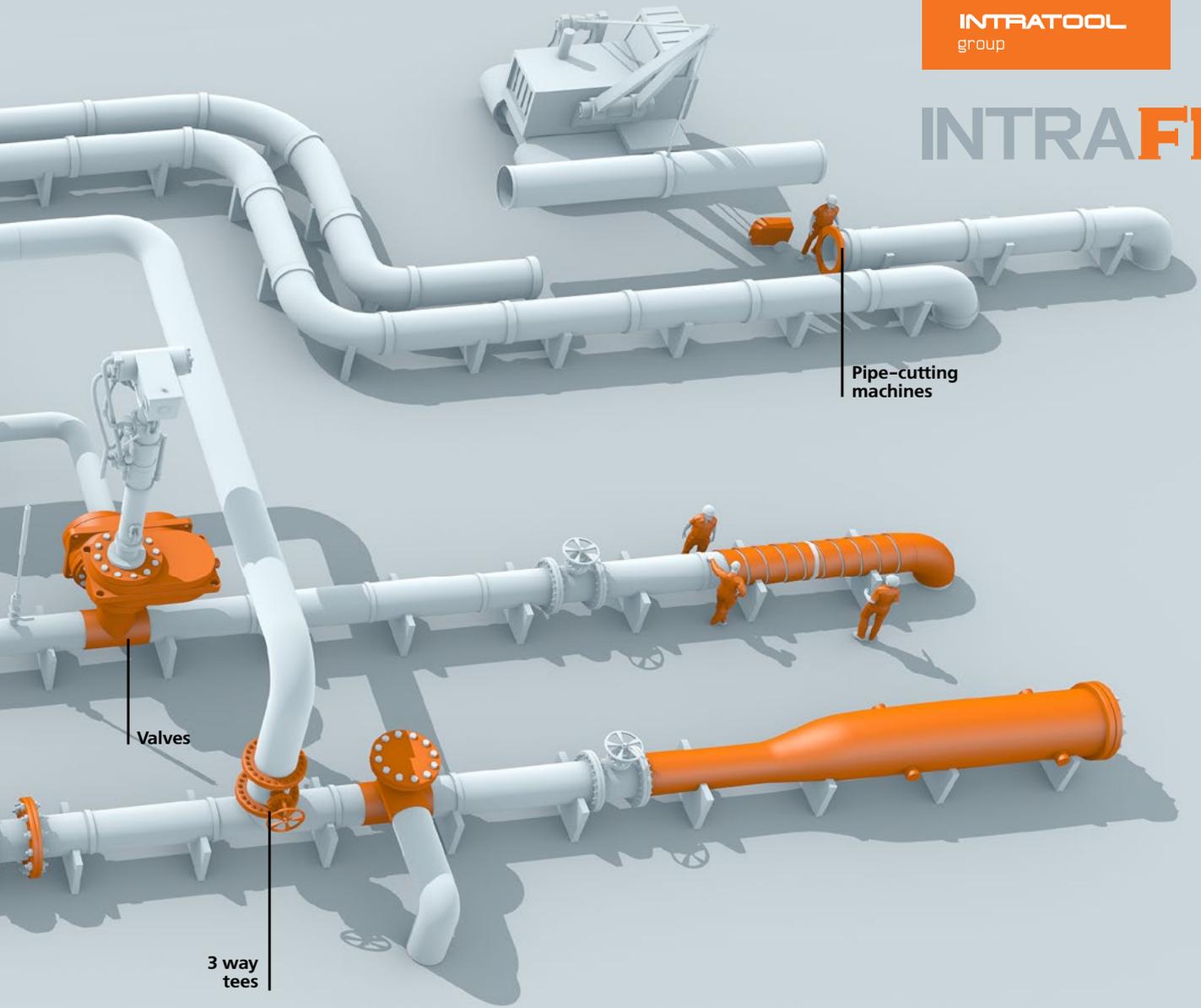
MATERIALS

- Austenitic stainless steels
- Stainless heat resistant steels
- Corrosion resistant steels
- Cold resistant steel
- Carbon steels
- Imported steels for a variety of purposes
- Special steels
- Other upon approval with the customer

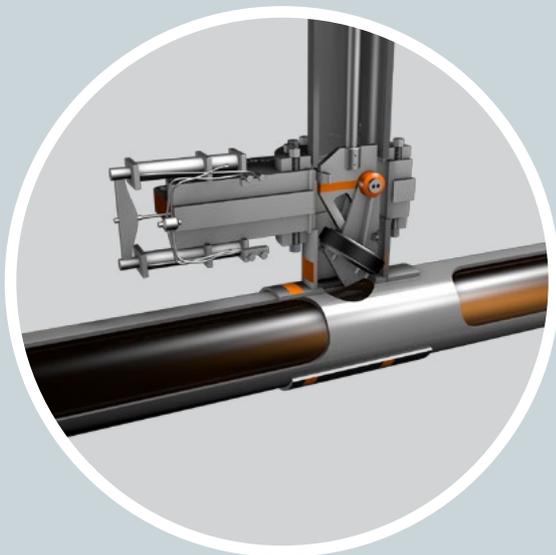
REGULATIONS

- Flanges:
 - $\varnothing \leq 24"$ ASME B16.5
 - $\varnothing > 24"$ MSS-SP-44 / ASME B16.47
- Welding: ASME IX
- Ends: ASME V
- Product specifications as per EN10204-3.1B





Hot tapping and line stopping



HOT TAPPING EQUIPMENT

Equipment is designed for hot tapping into any size of pipelines without service interruption.



TECHNICAL SPECIFICATIONS

Nominal size of drilled holes	12 to 1400 mm
Maximum working pressure	Up to 11.8 MPa
Ambient temperature range:	
For transportation, storage and loading	- 60°C to +80°C (-76°F to 176°F)
For operation	- 40°C to +50°C (-40°F to 122°F)
Maximum conveyed fluid temperature	260°C at 7.0 MPa with a standard sealing element
	370°C at 7.0 MPa with a custom-sealing element
Reference testing pressure at ambient temperature	P x 1.5

MANUAL SMALL SIZE HOT TAPPING MACHINE

- MB 118, MB124, MB130 (10 to 100 mm - ½" to 4")
- MB 206 (50 to 150 mm, 2" to 6")

HOT TAPPING MACHINE PNEUMATIC OR HYDRALULIC DRIVE

- MB 312 (80 to 300 mm, 3" to 12")
- MB 316 (80 to 400 mm, 3" to 16")

HOT TAPPING MACHINE HYDRAULIC DRIVE ONLY

- MB 320 (80 to 500 mm, 3" to 20")

HOT TAPPING MACHINE DOUBLE HYDRAULIC DRIVE ONLY

- MB 1236 (300 to 900 mm, 12" to 36")
- MB 1242 (300 to 1000 mm, 12" to 42")
- MB 1248 (300 to 1200 mm - 12" to 48")
- MB 2460 (600 to 1500 mm - 24" to 60")
- MB 2480 (600 to 2000 mm - 24" to 80")

Upon request hot tapping machines are supplied with air or hydraulic drive, air units or power units.





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LINE STOPPING EQUIPMENT

Equipment is designed for safe and reliable isolating pressurized sections of pipeline.



TECHNICAL SPECIFICATIONS

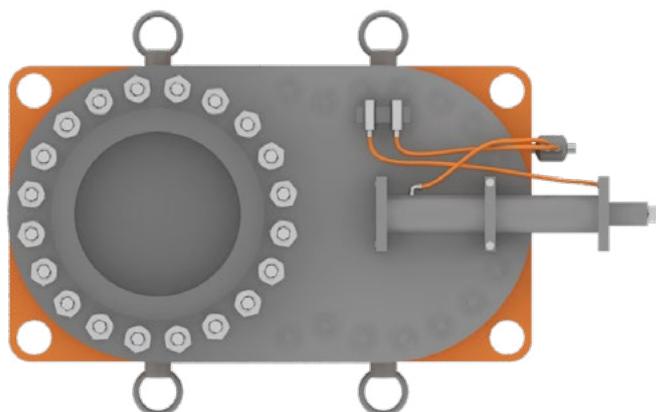
Pipeline size range	80 to 1220 mm
Maximum working pressure	7.0 MPa
Ambient temperature range:	
For transportation, storage and loading	- 60°C to +80°C (-76°F to 176°F)
For operation	- 40°C to +50°C (-40°F to 122°F)
Testing pressure at ambient temperature	Pw x 1.5

PRODUCTS LIST

- LINE STOPPING ACTUATOR 4" TO 12"
- LINE STOPPING ACTUATOR 6" TO 12"
- LINE STOPPING ACTUATOR 14" TO 20"
- LINE STOPPING ACTUATOR 22" TO 34"
- LINE STOPPING ACTUATOR 36" TO 48"

SANDWICH VALVES

Sandwich valves are used for isolation of pressure from hot tapping and line stopping equipment.



TECHNICAL SPECIFICATIONS

Nominal bore	50 mm (2") to 1200 mm (48")
Pressure	up to 11.8 MPa (120 bar)
Long-term operation temperature	-60°C to +80°C (-76°F to 176°F)
Working temperature range	-30°C to +40°C (-22°F to 104°F)
Drive type	Manual or hydraulic

- Sandwich valves with NB 50-1200 mm (2» to 48») for installation onto split tees for hot tapping and line stopping operations.
- High pressure valves for installation onto vent valves for pressure equalization.



HOT TAPPING ADAPTERS

are used for installation of a hot tapping machine with preinstalled cutting tool onto a sandwich valve.

HOUSINGS

Are used for installation of a stopping head with preinstalled completion plug onto a sandwich valve.



STOPPING HEADS

Are used for temporary stopping and isolation of a pipeline section to ensure full stop of the flow.

Stopping heads of two types are available:

- Pivoting stopping head;
- Folding stopping head.



BOLT ON AND WELD ON BRANCH ADAPTERS

- Straight adapters;
- Threaded adapters for MB10-100;
- Branch and straight adapters are used for connecting hot tap adapters and housings to tee flanges of various ANSI pressure ratings, for installation of bypass lines to bolt on or weld on side branches.

PLUG HOLDERS

To attach a plug to the hot tapping machine.



CUTTER HOLDERS

To attach a cutter or a drill to the hot tapping machine.

Hot tapping and line stopping accessories are available:

- Class 150 to Class 2500
- Products withstanding pressure up to 100 MPa are supplied upon request

CUTTERS

Are used for cutting a coupon in the pipeline.

DRILLS

Drills are used to center the cutter, grab and retract the coupon.

Cutters are supplied with high speed steel blades or hard-alloy blades.

- Line stop cutters.
- Hot tap cutters.
- Pilot drills.

Cutter selection criteria are hot tapping machine model, hot tap size, main pipeline material, wall thickness.

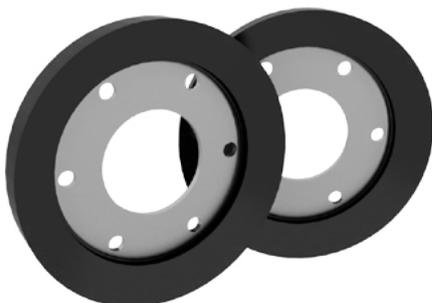
Cutters are available in sizes NB 30 mm through 1400 mm (1» through 56»).

LINE STOP SEALING ELEMENTS

Line stop sealing elements – sealing elements are placed on stopping heads to ensure seal proof stopping of the pipeline.

A sealing element is selected based on working pressure, pipeline ID, medium temperature.

- Standard sealing elements
- Sealing elements for folding heads



SPLIT TEES

Tees are used for operations on pipelines under pressure without interruption of service to arrange tie-ins of branches, arcs and loopings into a pipeline, for bypasses and line stopping of pipelines for maintenance or repair, single pipeline overhaul operations without shutdown.

TECHNICAL SPECIFICATIONS

Nominal bore	100 mm (4”) to 1400 mm (56”)
Pressure	11.8 MPa (120 bar)
Long-term operation temperature	-60°C to +80°C (-76°F to 176°F)

PRODUCT LIST

- Bolt on split tees.
- Weld on split tees.
- 3 Way split tees.

SCOPE OF SUPPLY:

- Split tees with/without completion plug + plug type (with/without scarfed nipple)
- Split tees with/without closure flange
- Split tees with/without O-rings and screws.

Upon request customized tees up to 100 MPa (1000 bar) can be produced.





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Repair clamps for on-line leak sealing

Leak sealing is performed on-line on a pipeline or a pressurized vessel without interrupting the production process.

The method involves comprehensive application of a special bandage (enclosure) and unique compounds (synthetic rubber based fillers).

This action ensures complete sealing. Sealing leaks in flange joints, gland valves, welded joints, housings of pipeline elements, and various fittings.

We offer a leak sealing solution on various systems such as steam, water, chemical, gases and air on such applications as:

- Valve bonnet joints
- Valve glands
- Flange joints
- Pipeline cracks or pinholes
- Pipe unions
- Pipe elbows, etc.

Special designs and alternative sizes are available upon request

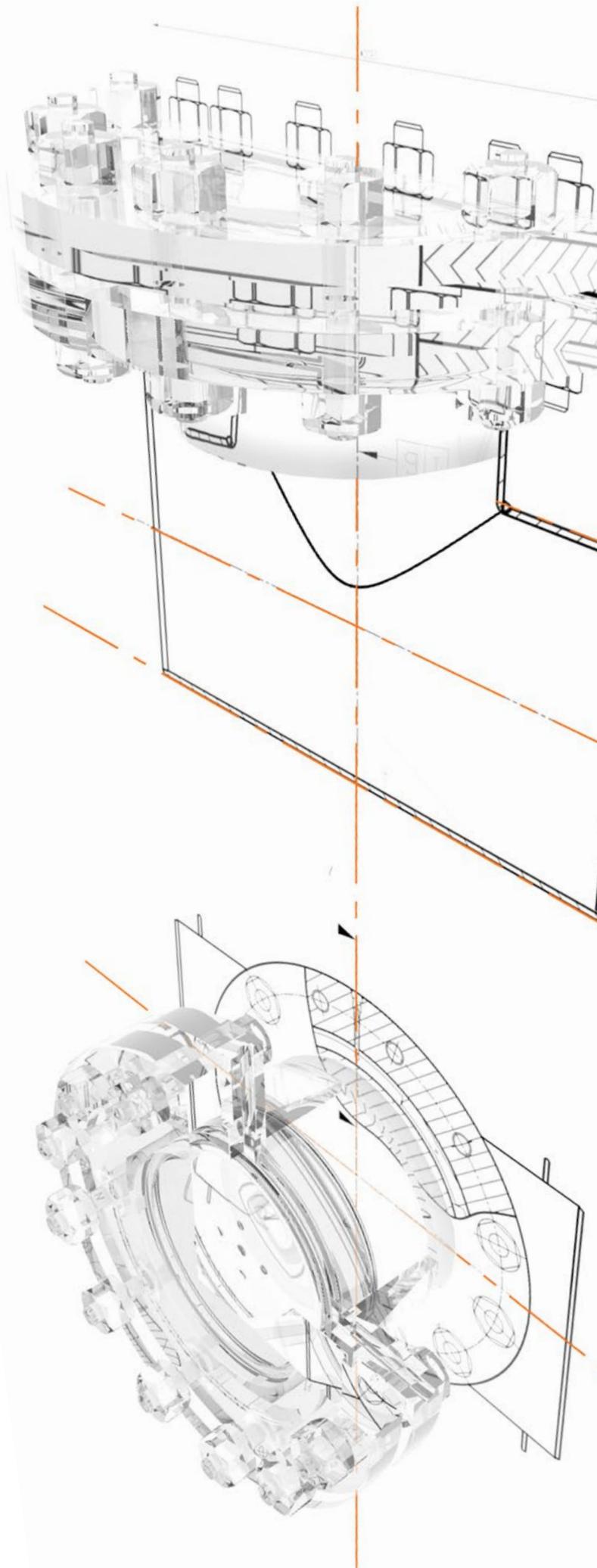
Due to well established process and high qualified engineers design and construction of repair clamp could be accomplished within a day.

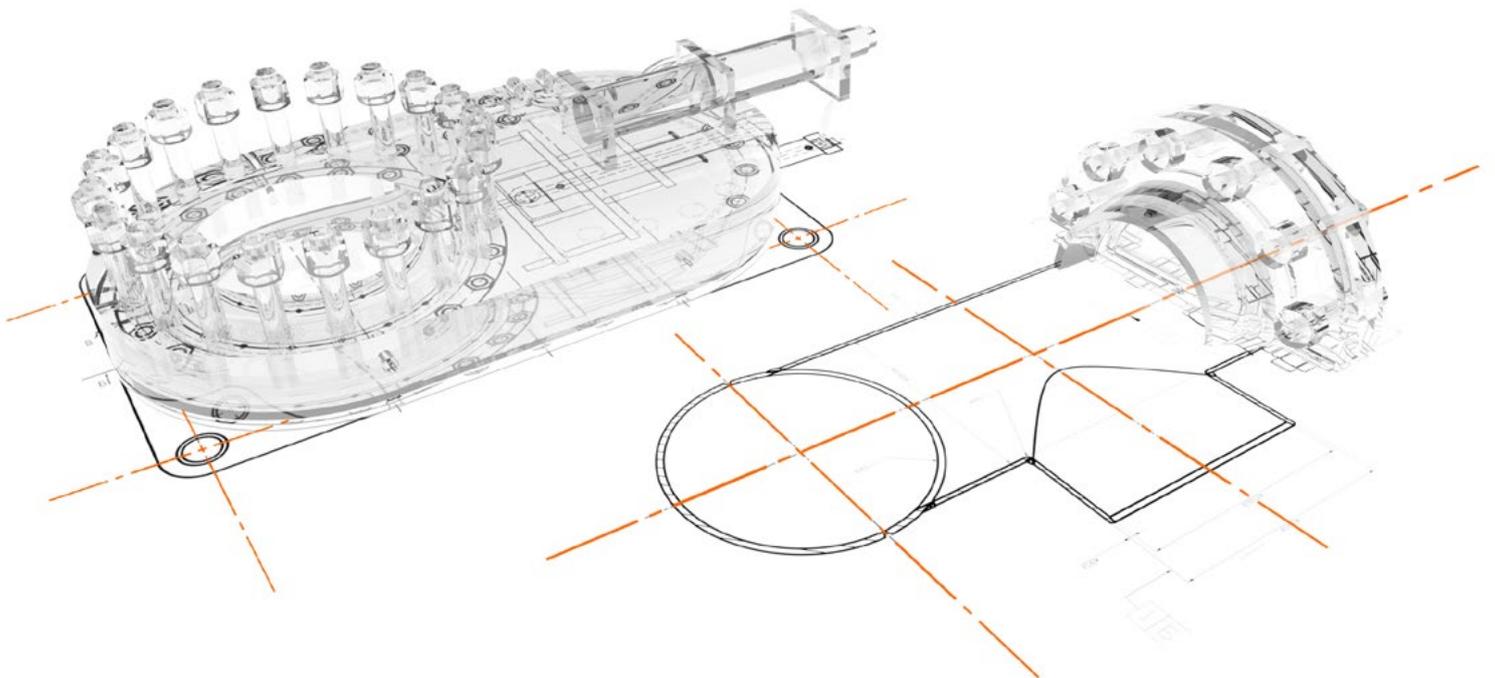
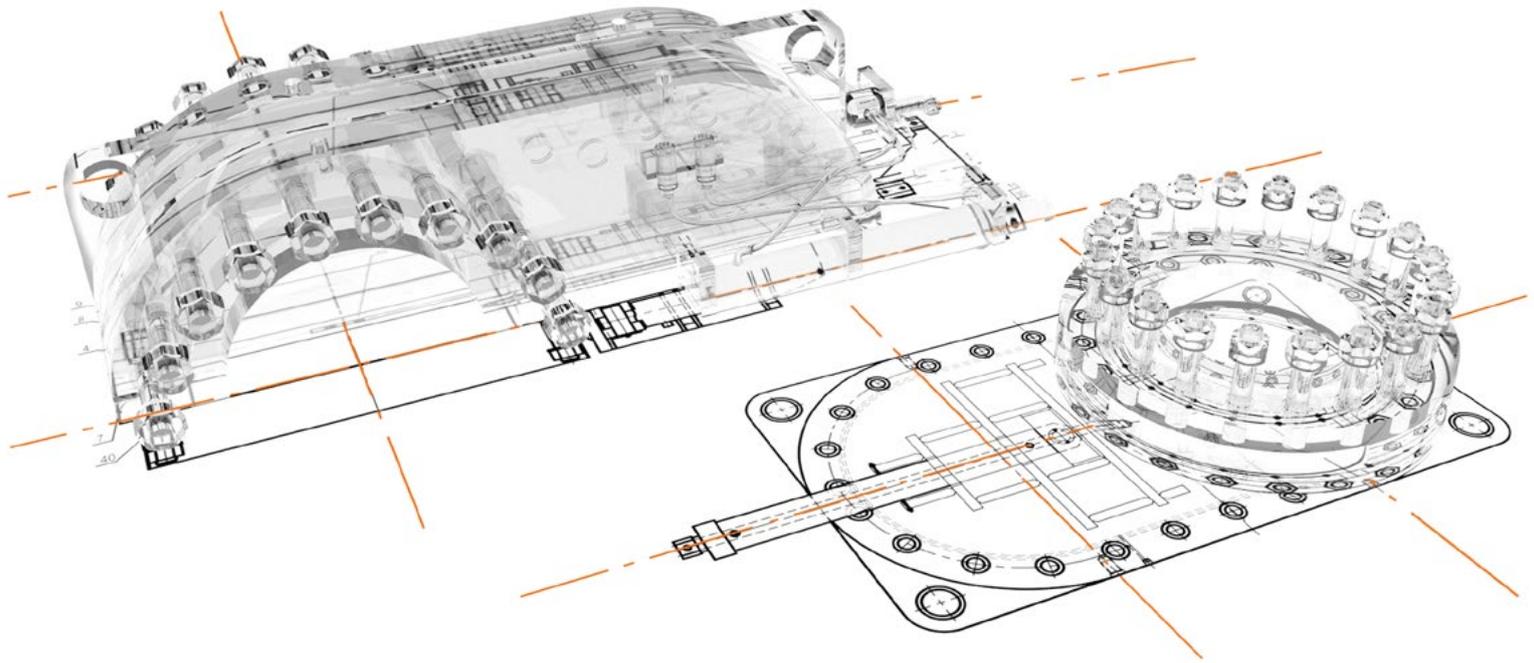


INTRAFIT™

ADVANTAGES

- Direct supplies of equipment and materials from INTRAFIT plant allows offering our customers individual and best cost saving contemporary processing solutions
- Resources available in INTRATOOL Group of Companies successfully resolve complex integrated turn-key solutions: from design to installation
- Quick response, smooth transportation patterns and a network of warehouses make urgent delivery possible
- State-of-the-art production facility provides the ability to produce both standard equipment and complex custom made parts
- The facility based engineering design office provides delivery to the customer using unique custom solutions that are unavailable among mass produced analogues or do not meet the customers quality/price requirements
- Acting as the equipment manufacturer and a design and installation service allows INTRAFIT to delivery much faster, control quality at every phase and ensure concurrent functioning of all systems of the facility
- Highly qualified personnel and accumulated experience ensure successful delivery of complex integrated project





INTRAFIT™

4/29 Obyezdnaya doroga Str., Miass,
Chelyabinsk region, 456300, Russia

tel.: +7 (351-3) 25-00-15
fax: +7 (351-3) 29-82-06
e-mail: sales@intrafit.ru

www.intrafit.ru

INTRA

services company

17, Magnitogorskaya Str.,
St. Petersburg, 195027, Russia,

tel.: +7 (812) 313-50-92
fax: +7 (812) 313-50-93
intra@intratool.ru

www.sc-intra.ru

