ГРУППА КОМПАНИЙ
TATNEFT

ООО «Татнефть-Пресскомпозит»

2023

tnpc.ru

ООО «ТАТНЕФТЬ-ПРЕССКОМПОЗИТ»

Russian Federation
Republic of Tatarstan, Elabuga region,

the territory of the industrial site "Alabuga" 22.1 str.,
building 48/3Sales Department: +7 (85557) 5-19-90

+7 919-680-11-76

Reception: +7 (85557) 5-19-98 (add.101)
Purchasing and Logistics Department: +7 (85557) 5-16-49

COMPOSITE PIPES
FIBERPIPE

ООО «Татнефть-Пресскомпозит»

Azat Ildusovich Gubaidullin
TATNEFT-PRESSCOMPOSITE LLC
CEO

DEAR PARTNER!

Tatneft-Presscomposite LLC is a dynamically developing enterprise - the Tatneft Group member. We have been successfully producing composite products and fiberglass-based materials, unsaturated resins and mineral fillers for more than 10 years.

The high quality characteristics for our products help us to meet the increasing demand for modern composite materials.

We continuously improve and develop our production processes, striving to reduce our negative environmental impact, achieving carbon neutrality goals, and maintaining our image as a "green" company.

TATNEFT-PRESSCOMPOSITE, LLC

Composite materials have moved to a forefront of various industries over the past decades. Their use provides qualitative development and attractiveness of the industrial sector.

The production technologies and product range selection for Tatneft-Presscomposite LLC was based on the maximum synergy effect for the Tatneft Group and import phase-out of foreign analogs in the Russian market.

The products manufactured by the enterprise (pipes, conduit systems, composite profile and structures) are used by Tatneft Group during the oil fields development, JSC TANECO oil refinery construction, as well as by other companies at the facilities under construction in Russia and CIS: oil and gas producing enterprises, chemical plants, mining industry and other spheres and industries.

FOUNDATION YEAR
2011

STAFF
more than
800
employees

INTEGRATED MANAGEMENT SYSTEM
complies with
ISO international standards

COMPANY'S INNOVATIVE STRENGTH
more than
10 patents
for intellectual activity results

ADVISED, ENVIRONMENTALLY RESPONSIBLE BUSINESS based on sustainable growth goals

CONTENT

PRODUCTION

Performance....5
Technology....6
Production advantages....7
Identification....8
Quality control 9

FIBERPIPE COMPOSITE PIPES

Composite pipe advantages 11
Line pipes. 8RD connection 12
Line pipes. 2-4RD connection 13
Pipeline assembly speed 14
Regulatory system for composite pipes application 15
Oil and gas industry application 16

OUR PROJECTS 21

LINE, OIL-WELL AND CORE-SHELL PIPES

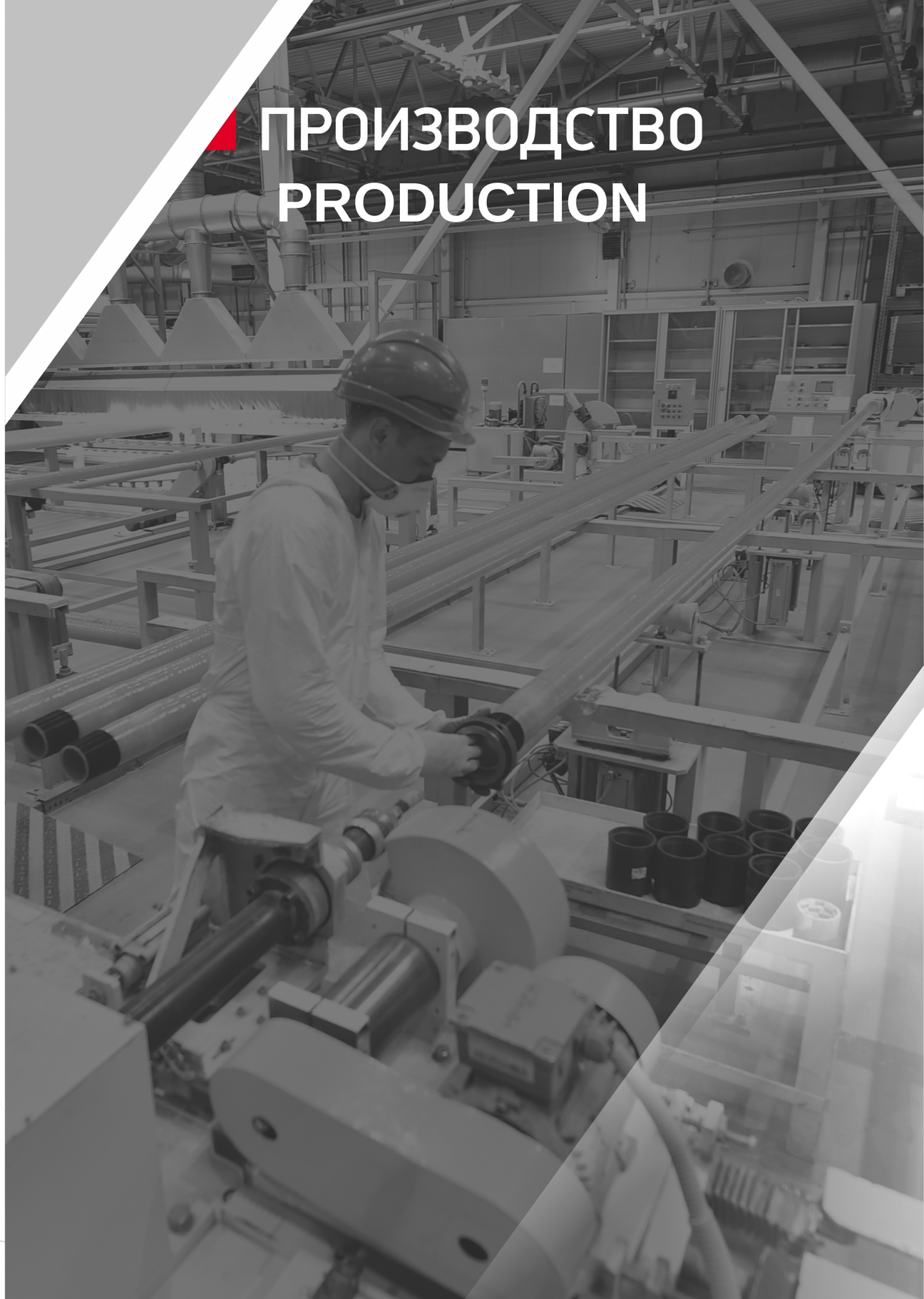
Main parameters for 8RD thread connection pipes 25
Main parameters for 2-4RD pipes 34

SHAPED PRODUCTS

Main parameters for composite shaped products 35

COMPOSITE PIPES SELECTION GUIDE

Line pipes and shaped products connection types. 67



ПРОИЗВОДСТВО
PRODUCTION

PERFORMANCE

Tatneft-Presscomposite LLC sells high pressure composite oil-well, core-shell, line pipes of FIBERPIPE brand.

2000
KM/YEAR

OF COMPOSITE PIPES

TECHNOLOGY

The manufacturing line for pipes producing

50-300 mm
DIAMETER

up to 27,6 MPa
PRESSURE

Manufacturing method **batch winding**

Raw material

75%
FIBERGLASS

25%
EPOXY RESIN

PRODUCTION ADVANTAGES

Automated production cycle

Pipes and shaped products complex production

High line performance

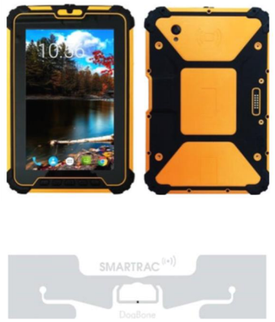
Quality control, identification of manufactured products by RFID-tag

IDENTIFICATION

Composite pipes have special RFID-tags to collect the production statistics and identify the products.

Tag collects the whole data in digital form for the every position: data for manufacturing equipment, production staff, specification (weight, temperature, pressure etc).

Customers can read the product information using the data collection terminal and analyze the quality of each good position.
RFID tags allow to check the product quality both during the production and operation, referring not to the manufacturer's words but to the automated digital data.



Identification by RFID tag

Tag is located inside the pipe body,
under the final resin layer, that excludes its separation and loss.

QUALITY CONTROL

All pipes and shaped products undergo pressure tests, visual and instrumental inspection to check its physical and mechanical properties compliance with detailed construction documentation.

Company has the special laboratory for products long-term testing according to

ASTM 2992-B

GOST R 57069-2016

КОМПОЗИТНЫЕ ТРУБЫ FIBERPIPE

FIBERPIPE COMPOSITE PIPES

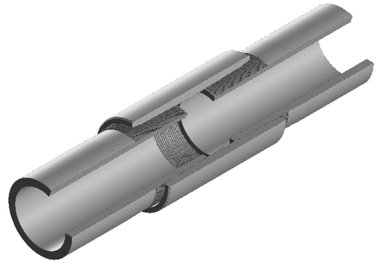
COMPOSITE PIPES ADVANTAGES

- CO2 equivalent is reduced from 4 to 6 times.
- Corrosion resistance
- Easy pipelaying (is faster that the coated steel pipe laying without using heavy machinery)
- Construction and assembly operations low cost
- No welding work during assembly and repair
- No need to install electrochemical protection
- Competitive prices

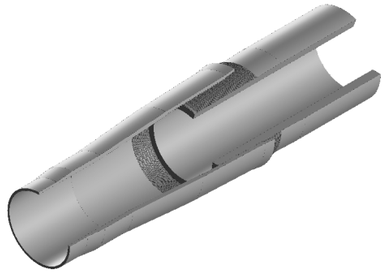
LEARN MORE ABOUT THE CO2 EQUIVALENT

LINE PIPES WITH 8RD CONNECTION

Composite pipes with 8RD connection have coupling and socket joint.

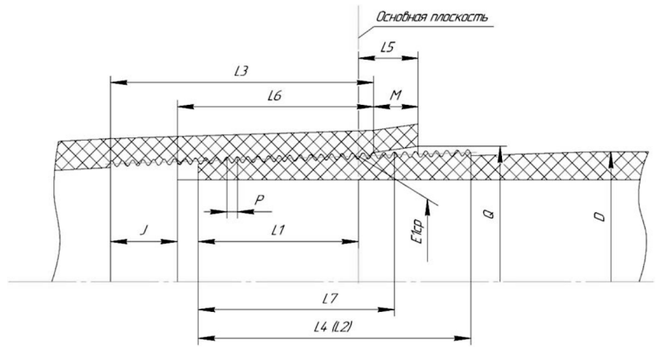


Coupling threaded joint



Socket threaded joint

РЕЗЬБОВОЕ СОЕДИНЕНИЕ 8RD

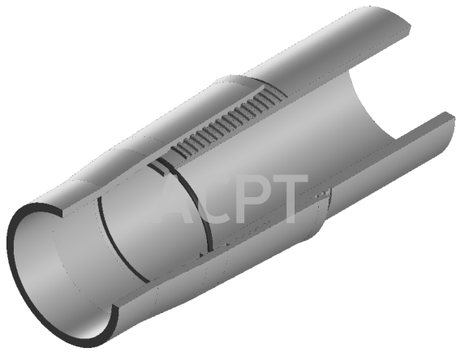


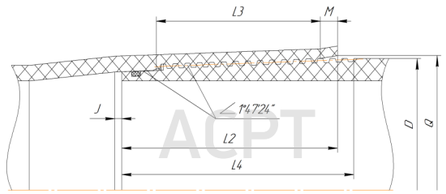
Elcp - the average diameter of the thread in the main plane; D - the upset part outer diameter; Q - coupling/socket recess diameter; L1 - the length from the nipple end to the thread main plane; L3 - coupling/socket thread total length; L4 - nipple part thread total length; 5 - distance from the coupling/socket end to the main plane; L6 - nipple thread effective part length; L7 - socket thread effective part total length, M - coupling/socket recess depth; J - distance between the pipe end plane during mechanical fastening to the socket center or small diameter thread end in the socket.

LINE PIPES WITH 2-4RD+O-ring CONNECTION AND SEALING RING

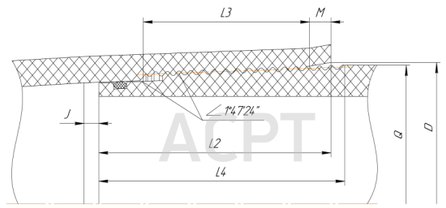
Composite pipes with 2-4RD connection + O-ring have socket and spigot joint.
Sealing ring is made of chemically resistant elastic material.

MECHANICAL CONNECTION 2-4RD + O-RING WITH THE SEALING RING





2 RDS+O-ring; 2 RDl+O-ring



4 RD+O-ring

D - upset part outer diameter; Q - socket recess diameter; L1 - length of shell with a recess for O-ring; L2 - connection effective part length; L3 - socket thread total length; L4 - nipple part total length; M - coupling/socket recess depth; J - distance between the pipe end plane to the sealing area end in the socket in case of mechanical fastening.

PIPELINE ASSEMBLY SPEED

ASSEMBLY SPEED FOR PIPES WITH 8RD CONNECTION

Parameter	Conical self-sealing thread 8RD					
Pipe size, mm	50	65	80	100	150	200
Standard assembly speed, m/hour	250	225	140	80	35	30

ASSEMBLY SPEED FOR PIPES WITH 2RD+O-Ring AND 4RD+O-ring CONNECTION

Parameter	2RD + O-ring and 4RD+O-ring connection				
Pipe size,mm	100	150	200	250	300
Standard assembly speed,m/hour	100	65	50	40	30

REGULATORY SYSTEM FOR COMPOSITE PIPES APPLICATION

In 2016, Tatneft-Presscomposite LLC decided to develop a standard to eliminate gaps in the existing regulatory system for the fiberglass field pipelines manufacturing, and together with Engineering Oil and Gas Company VNIIST JSC, GOST R 59411-2021 was developed on the basis of international standards and experience gained.
"Field pipelines from glass-fiber reinforced plastic pipes. Rules of design and operation".

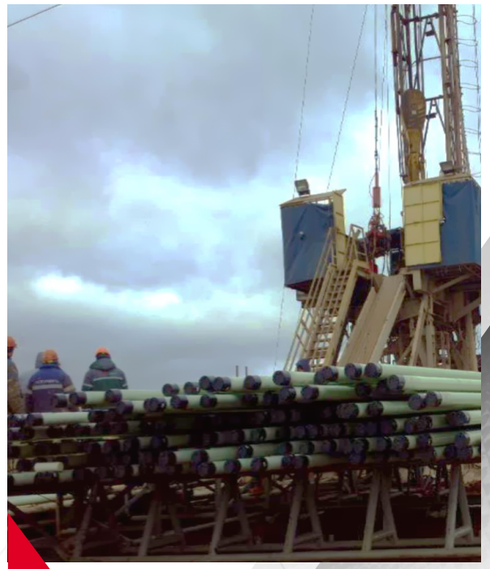
WAS APPROVED AND PUT INTO EFFECT BY THE Order of Federal Technical Regulation and Metrology Agency dated March 31, 2021 N 178-ст.

GOST R 59411-2021 Standard "Field pipelines from glass-fiber reinforced plastic pipes. Rules of design and operation".

APPLICATION IN OIL AND GAS INDUSTRY

Field pipes

Oil-well pipes



Core-shell pipes

APPLICATION

OIL-WELL AND CORE-SHELL PIPES APPLICATION

- Producing wells with ESCP units
- Producing wells with horse-head pump units
- Repair of steel operational columns with the additional fiberglass core-shell pipe running in
- Well casing strings
- Casing strings liners
- Packer-type and packerless pressure wells of reservoir pressure maintenance system
- Disposal wells

COMPOSITE LINE PIPES APPLICATION

- Process pipelines
- Pipelines for oil beds flooding systems and stratal and waste water disposal systems

- Oil pipelines for dry crude or watered oil transportation
- Demulsifiers pipeline to supply the demulsification agents to the objects Pipelines for
- chemically aggressive liquids
- Oilfield pipelines
- Systems for hot, cold drinking and process water supply
- Fire water pipelines
- Heating networks

FIELD PIPELINES WITH 8RD CONNECTION

Operating pressure: up to 21 MPa
Operating temperature: +115 C; -130 C °
Pipe length: 10 000mm
Thread: high-precision molded
Diameter: 60, 73, 89, 114, 159, 219 mm

- 80 and 100 mm dia. oil and gas flow lines from wells to meter station
- 150 and 200 mm dia. gathering lines (oil and gas gathering pipeline) to transport the product from the meter station to BPPS preliminary water removal unit and oil
- treatment and measuring facilities
  80, 100, 150, 200 mm dia. water pipes with a pressure of more than 10 MPa, for the supply of stratal and wastewater to wells for injection into depleted fields
- Gas pipelines

FIELD PIPELINES WITH 4/2RD+O ring CONNECTION

Operating pressure: up to 8,6 MPa
Operating temperature: +115 C; -130 C °
Pipe length: up to 9 900 mm
Thread: polished with o-ring
Diameter: 114, 159, 219, 273, 325 mm

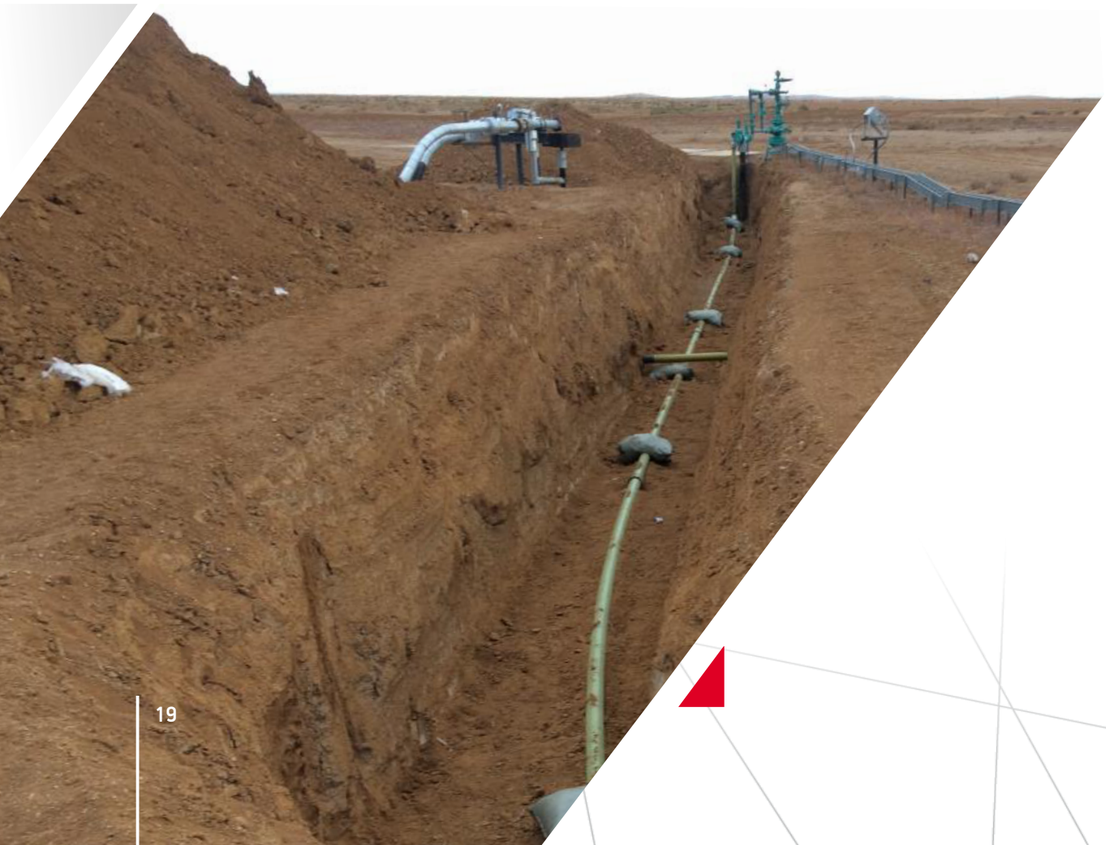
- 100, 150, 200, 250, 300 mm dia. oil pipelines for oil transporting
- Demineralized water pipelines for high-sulfur oil facilities
- 150, 200, 250, 300 mm dia. intake tunnels ofwater injection system

OIL-WELL PIPES

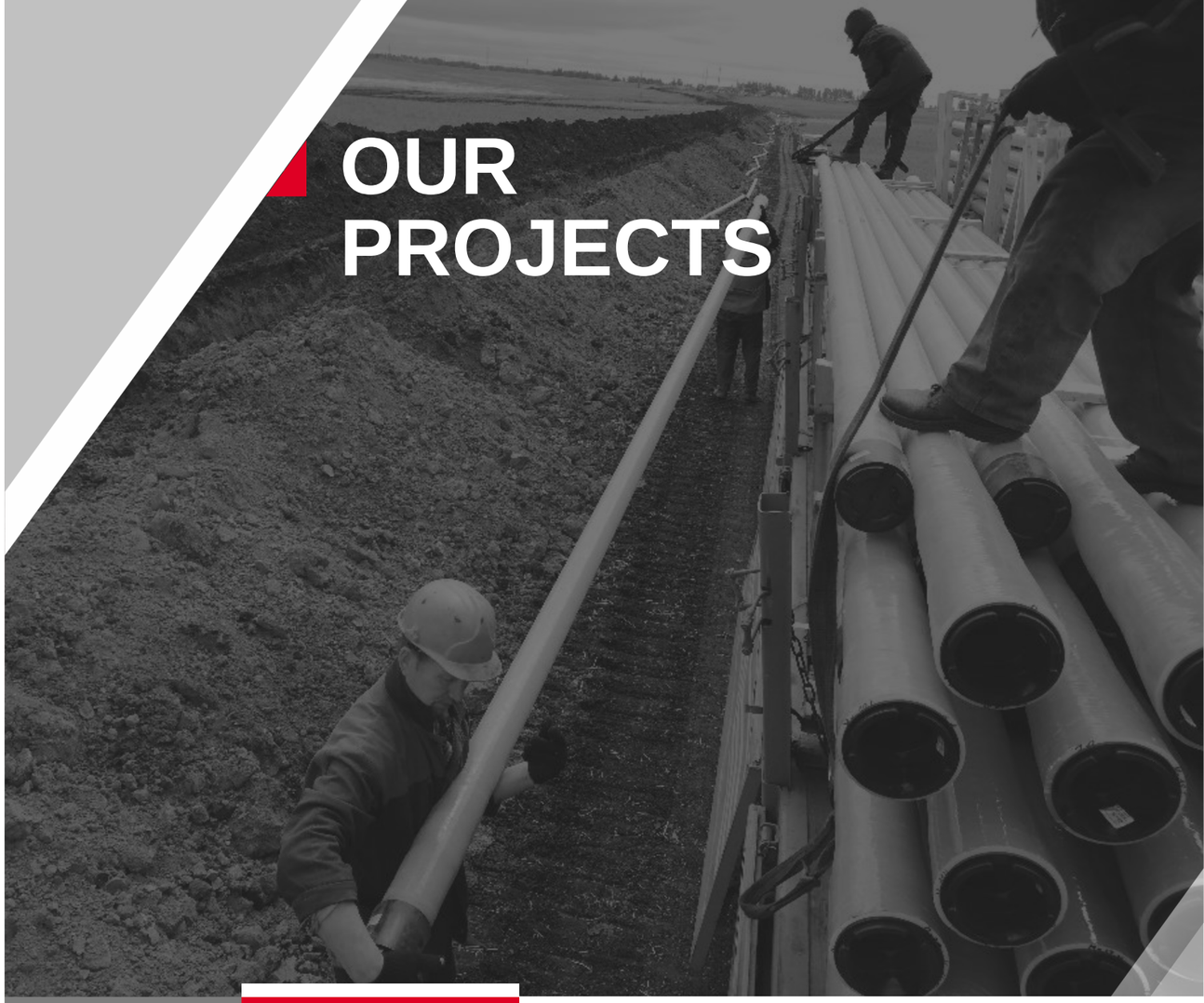
Operating pressure:	up to 27,6 MPa
Operating temperature:	+ 115 C; ∓ 130 C °
Connection:	coupling with thread 8RD
Pipe lenght:	up to 10200 mm
Thread:	high-precision molded with the addition of antifriction additives
Diameter:	60, 73, 89 mm

APPLICATION OF OIL-WELL PIPES

- Producing wells with ESCP andhorse-head pump units
- Absorbing well with ПРО-ЯМО 3-Н and М1Х packers



OUR PROJECTS



More than **2000** km

OF PIPELINES

for the petrochemical industry

OUR PROJECTS

TATNEFT PJSC

- Water injection system intake tunnels
- Discharge lines
- Oil-gathering lines
- Flow lines
- On-site pipelines

2016–2022

OOO BAGAEVSKOE NGDU (Oil/Gas Production Division Bagaevskoe)

- Gas pipelines

2019

OAO ULYANOVSKNEFT

- Water injection system intake tunnels

2019

OOO LUKBELOIL

- Oil-gathering lines

2020

OUR PROJECTS

AO PETROKAZAKHSTAN

- Water injection system intake tunnels

2018

KAZZINC, territorial production complex

- Mine drainage

2020

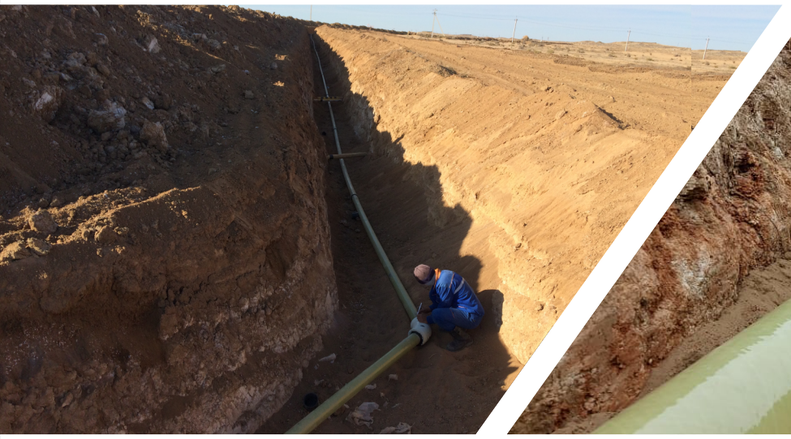
AO KASPIY NEFT

- Flow lines
- Water injection system intake tunnels
- Water injection system discharge lines
- Oil-gathering lines

2019–2021

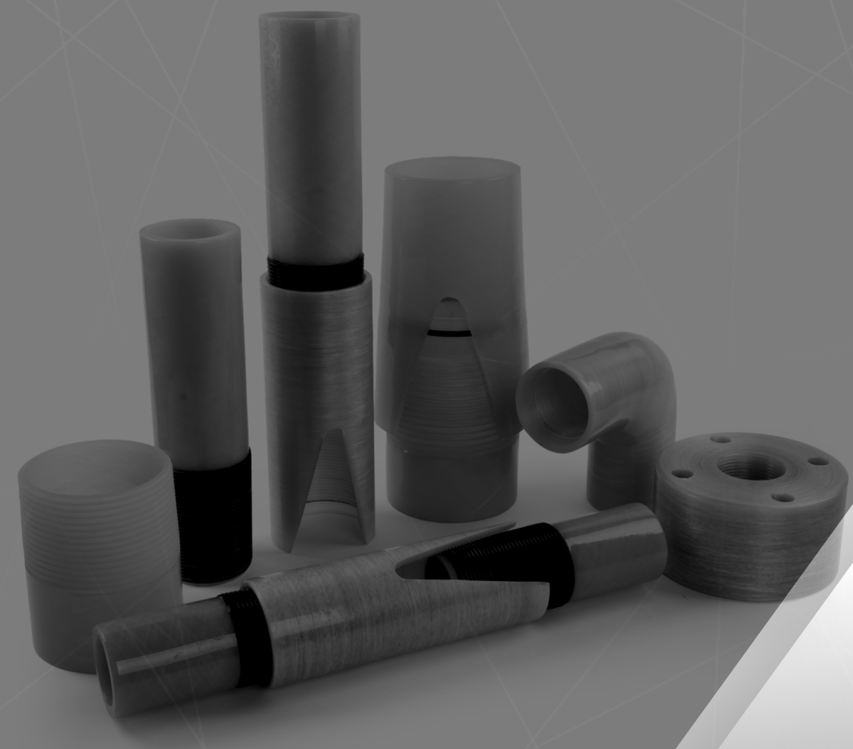
COMPOSITE PIPES APPLICATION RESULTS FOR CUSTOMERS

- trouble-free operation period increase
- pipelines corrosion resistance
- absence of salt and other deposits scaling
- depressurization risks
- reduction CO2 equivalent reduction during oil production
- no need to use corrosion inhibitors



LINE, OIL-WELL AND CORE-SHELL PIPES

Technical specification



N PARAMETERS FOR PIPES WITH 8RD THREADED CONNECTION

Line pipes with the operating temperature up to 65℃
Socket connection

Seq No.	Thread size, inch	ID, inch	ID, mm	Wall thickness,mm	OD, mm	Weight 1 meter of run, kg	Socket dia.,c mm	Min.bending radius, m	Article		DN, mm	Nominal pressure, MPa
									Shaped male thread	Ground male thread		
Flow lines, gathering manifolds												
1	2⅞	2,43	61,7	3	67,7	1,4	86,2	40,9	L27FK4AN61	L27FG4AN61	60	4,0
2	3½	3,0	76,2	2,8	81,8	1,9	104,4	50,1	L31FK4AN76	L31FG4AN76	80	
3	4½	3,75	95,3	3	101,3	2,5	131,9	61,7	L41FK4AN95	L41FG4AN95	100	
4	6⅝	5,5	139,7	3,1	145,9	3,5	169,6	89,7	L65FK4AN139	L65FG4AN139	150	
5	9⅝	7,98	202,7	4,2	211,1	7,0	270,2	128,4	L95FK4AN202	L95FG4AN202	200	
Discharge manifolds												
6	2⅞	2,43	61,7	3	67,7	1,4	87,9	41,2	L27FK5AN61	L27FG5AN61	60	5,5
7	3½	3,0	76,2	2,8	81,8	1,8	106,5	50,1	L31FK5AN76	L31FG5AN76	80	
8	4½	3,75	95,3	3,0	101,3	2,5	135	61,7	L41FK5AN95	L41FG5AN95	100	
9	6⅝	5,5	139,7	4,05	147,8	4,3	190,5	89,9	L65FK5AN139	L65FG5AN139	150	
10	9⅝	7,98	202,7	5,9	214,5	9,4	278,9	130,5	L95FK5AN202	L95FG5AN202	200	
11	2⅞	2,43	61,7	3,0	67,7	1,4	89,3	41,2	L27FK6AN61	L27FG6AN61	60	6,9
12	3½	3	76,2	2,8	81,8	1,8	108,5	50,1	L31FK6AN76	L31FG6AN76	80	
13	4½	3,75	95,3	3,5	102,3	2,6	137,5	62,2	L41FK6AN95	L41FG6AN95	100	
14	6⅝	5,5	139,7	5,1	149,9	5,2	195,2	91,2	L65FK6AN139	L65FG6AN139	150	
15	9⅝	7,98	202,7	7,4	217,5	11,6	287,2	132,3	L95FK6AN202	L95FG6AN202	200	
16	2⅜	2	50,8	2,8	56,4	1,06	77,4	34,1	L23FK8AN50	L23FG8AN50	50	8,6
17	2⅞	2,43	61,7	3,0	67,7	1,4	91,1	41,2	L27FK8AN61	L27FG8AN61	60	
18	3½	3	76,2	3,5	83,2	1,9	110,5	50,4	L31FK8AN76	L31FG8AN76	80	
19	4½	3,75	95,3	4,4	104,1	3,1	141	63	L41FK8AN95	L41FG8AN95	100	
20	6⅝	5,5	139,7	6,4	152,5	6,5	201,4	92,4	L65FK8AN139	L65FG8AN139	150	
21	9⅝	7,98	202,7	9,3	221,3	13,9	297,7	134,1	L95FK8AN202	L95FG8AN202	200	
HP intake tunnels												
22	2⅜	2	50,8	2,8	56,4	1,06	77,4	34,1	L23FK10AN50	L23FG10AN50	50	10,3
23	2⅞	2,43	61,7	3,4	68,5	1,6	92,9	41,7	L27FK10AN61	L27FG10AN61	60	
24	3½	3	76,2	4,2	84,6	2,2	112,9	51,2	L31FK10AN76	L31FG10AN76	80	
25	4½	3,75	95,3	5,3	105,9	3,7	144,3	64,1	L41FK10AN95	L41FG10AN95	100	
26	6⅝	5,5	139,7	7,7	155,1	7,8	207,4	94,3	L65FK10AN139	L65FG10AN139	150	
27	9⅝	7,98	202,7	11,2	225,1	16,9	308,6	136,6	L95FK10AN202	L95FG10AN202	200	

Continuation.
Line pipes with the operating temperature up to 65C °
Socket connection

Seq No.	Thread size, inch	ID, inch	ID, mm	Wall thickness,mm	OD, mm	Weight 1 meter of run, kg	Socket dia., mm	Min. bending radius,m	Article		DN, mm	Nominal pressure, MPa
									Shaped male thread	Ground male thread		
28	2⅜	2	50,8	3,3	57,4	1,06	78,9	34,1	L23FK12AN50	L23FG12AN50	50	12,1
29	2⅞	2,43	61,7	4,1	69,9	1,9	94,8	42,5	L27FK12AN61	L27FG12AN61	60	
30	3½	3	76,2	5,0	86,2	2,6	115,6	51,7	L31FK12AN76	L31FG12AN76	80	
31	4½	3,75	95,3	6,3	107,9	4,4	148,1	65,4	L41FK12AN95	L41FG12AN95	100	
32	6⅝	5,5	139,7	9,2	158,1	9,4	214,1	95,1	L65FK12AN139	L65FG12AN139	150	
33	9⅝	7,98	202,7	13,3	229,3	20,5	320,6	139,1	L95FK12AN202	L95FG12AN202	200	
34	2⅜	2	50,8	3,9	58,6	1,06	66	34,1	L23FK13AN50	L23FG13AN50	50	13,8
35	2⅞	2,43	61,7	4,5	70,7	2,1	96,3	43,1	L27FK13AN61	L27FG13AN61	60	
36	3½	3	76,2	5,8	87,8	3,1	119,2	53,1	L31FK13AN76	L31FG13AN76	80	
37	4½	3,75	95,3	7,2	109,7	4,9	151,4	66,3	L41FK13AN95	L41FG13AN95	100	
38	6⅝	5,5	139,7	10,56	160,7	10,8	220,7	97,3	L65FK13AN139	L65FG13AN139	150	
39	2⅞	2,43	61,7	5,3	72,3	2,4	99,3	43,7	L27FK15AN61	L27FG15AN61	60	15,5
40	3½	3	76,2	6,7	89,6	3,5	120,8	53,9	L31FK15AN76	L31FG15AN76	80	
41	4½	3,75	95,3	8,1	111,5	5,6	155,1	67,5	L41FK15AN95	L41FG15AN95	100	
42	6⅝	5,5	139,7	11,9	163,5	11,3	227,6	97,3	L65FK15AN139	L65FK13AN139	150	
43	2⅜	2	50,8	4,7	60,2	1,8	84,2	36,7	L23FK17AN50	L23FG17AN50	50	17,2
44	2⅞	2,43	61,7	5,7	73,1	2,6	100,2	44,5	L27FK17AN61	L27FG17AN61	60	
45	3½	3	76,2	7,3	90,7	4	123,5	54,8	L31FK17AN76	L31FG17AN76	80	
46	4½	3,75	95,3	9,24	113,78	6,3	161	68,7	L41FK17AN95	L41FG17AN95	100	
47	3½	3	76,2	8,1	92,4	4,2	127,3	55,3	L31FK19AN76	L31FG19AN76	80	19
48	4½	3,75	95,3	10,2	115,7	6,5	165,4	69,3	L41FK19AN95	L41FG19AN95	100	
49	2⅜	2	50,8	5,9	62,6	2,1	87,5	37,4	L23FK20AN50	L23FG20AN50	50	20,7
50	2⅞	2,43	61,7	7,2	76,1	3,1	104,5	45,8	L27FK20AN61	L27FG20AN61	60	
51	3½	3	76,2	8,9	94,0	4,5	129,3	55,7	L31FK20AN76	L31FG20AN76	80	
52	4½	3,75	95,3	11,2	117,7	7,3	170,2	70,3	L41FK20AN95	L41FG20AN95	100	

Line pipes with the operating temperature up to 100°C.
Socket connection..

Seq. No.	Thread size, inch	ID, inch	ID, mm	Wall thickness, mm	OD, mm	Weight 1 meter of run,kg	Socket dia., mm	Min. bending radius, m	Article		DN, mm	Nominal pressure, MPa
									Shaped male thread	Ground male thread		
Flow lines, gathering manifolds												
1	2⅞	2,43	61,7	3,5	68,7	1,4	94,0	40,8	L27FK3AR61	L27FG3AR61	**60**	
2	3½	3,0	76,2	3,1	82,4	1,8	104,8	49,6	L31FK3AR76	L31FG3AR76	**80**	
3	4½	3,75	95,3	3,0	101,3	2,2	132,4	61,1	L41FK3AR95	L41FG3AR95	**100**	**3,4**
4	6⅝	5,5	139,7	3,6	146,9	3,8	186,9	88,4	L65FK3AR139	L65FG3AR139	**150**	
5	9⅝	7,98	202,7	4,5	211,7	7,4	273,1	128,2	L95FK3AR202	L95FG3AR202	**200**	
6	2⅞	2,43	61,7	3,5	68,7	1,4	94,0	40,6	L27FK4AR61	L27FG4AR61	**60**	
7	3½	3,0	76,2	3,1	82,4	1,8	105,8	49,7	L31FK4AR76	L31FG4AR76	**80**	
8	4½	3,75	95,3	3,1	101,5	2,5	134,0	61,2	L41FK4AR95	L41FG4AR95	**100**	**4,0**
9	6⅝	5,5	139,7	3,6	146,9	4,0	189,5	89,9	L65FK4AR139	L65FG4AR139	**150**	
10	9⅝	7,98	202,7	5,2	213,1	8,4	277,3	128,4	L95FK4AR202	L95FG4AR202	**200**	
Discharge manifolds												
11	2⅞	2,43	61,7	3,5	68,7	1,4	94,0	40,8	L27FK5AR61	L27FG5AR61	**60**	
12	3½	3,0	76,2	3,1	82,4	1,8	104,8	49,6	L31FK5AR76	L31FG5AR76	**80**	
13	4½	3,75	95,3	3,4	102,1	2,7	132,4	61,8	L41FK5AR95	L41FG5AR95	**100**	**5,5**
14	6⅝	5,5	139,7	5	149,7	5,4	186,9	90,5	L65FK5AR139	L65FG5AR139	**150**	
15	9⅝	7,98	202,7	7,2	217,1	11,3	273,1	131,3	L95FK5AR202	L95FG5AR202	**200**	
16	2⅞	2,43	61,7	3,5	68,7	1,4	94,0	40,8	L27FK6AR61	L27FG6AR61	**60**	
17	3½	3,0	76,2	3,4	83	2,2	105,8	50,6	L31FK6AR76	L31FG6AR76	**80**	
18	4½	3,75	95,3	4,9	105,1	3,5	134,0	63,3	L41FK6AR95	L41FG6AR95	**100**	**6,9**
19	6⅝	5,5	139,7	6,3	152,3	7,9	189,5	98,2	L65FK6AR139	L65FG6AR139	**150**	
20	9⅝	7,98	202,7	9,1	220,9	14,2	277,3	134,6	L95FK6AR202	L95FG6AR202	**200**	
21	2⅜	2	50,8	3,0	56,8	1,1	78,3	34,4	L23FK8AR50	L23FG8AR50	**50**	
22	2⅞	2,43	61,7	3,5	68,7	21,8	94	41,9	L27FK8AR61	L27FG8AR61	**60**	
23	3½	3	76,2	4,3	84,8	2,8	114,3	51,9	L31FK8AR76	L31FG8AR76	**80**	
24	4½	3,75	95,3	5,4	106,1	4,4	145,8	64,9	L41FK8AR95	L41FG8AR95	**100**	**8,6**
25	6⅝	5,5	139,7	7,9	155,5	8,1	211,4	95,1	L65FK8AR139	L65FG8AR139	**150**	
26	9⅝	7,98	202,7	13	228,7	19,7	312,6	137,8	L95FK8AR202	L95FG8AR202	**200**	

Continuation.
Line pipes with the operating temperature up to 100°C.
Socket connection.

Seq. No.	Thread size, inch	ID, inch	ID, mm	Wall thickness, mm	OD, mm	Weight 1 meter of run,kg	Socket dia., mm	Min. bending radius, m	Article		DN, mm	Nominal pressure, MPa
									Shaped male thread	Ground male thread		
HP intake tunnels												
27	2⅜	2	50,8	4	58,8	1,6	79,8	35,5	L23FK10AR50	L23FG10AR50	**50**	
28	2⅞	2,43	61,7	4,2	70,1	2,3	95,9	43,1	L27FK10AR61	L27FG10AR61	**60**	
29	3½	3	76,2	5,2	86,6	3,4	117,5	53,2	L31FK10AR76	L31FG10AR76	**80**	**10,3**
30	4½	3,75	95,3	6,5	108,3	5,3	149,8	66,5	L41FK10AR95	L41FG10AR95	**100**	
31	6⅝	5,5	139,7	9,5	158,7	9,8	220,5	97,5	L65FK10AR139	L65FG10AR139	**150**	
32	9⅝	7,98	202,7	13,8	230,3	21,6	331,3	141,4	L95FK10AR202	L95FG10AR202	**200**	
33	2⅜	2	50,8	4,5	60,2	1,8	81,8	36,3	L23FK12AR50	L23FG12AR50	**50**	
34	2⅞	2,43	61,7	4,8	71,7	2,6	99,3	44,1	L27FK12AR61	L27FG12AR61	**60**	
35	3½	3	76,2	6,2	88,6	4	121,9	54,5	L31FK12AR76	L31FG12AR76	**80**	**12,1**
36	4½	3,75	95,3	7,7	110,7	6,3	154,8	68,2	L41FK12AR95	L41FG12AR95	**100**	
37	6⅝	5,5	139,7	11,3	162,3	11,7	230,1	99,9	L65FK12AR139	L65FG12AR139	**150**	
38	2⅜	2	50,8	5,5	61,8	2,1	83,9	37,2	L23FK13AR50	L23FG13AR50	**50**	
39	2⅞	2,43	61,7	5,8	73,3	3	101,2	45,2	L27FK13AR61	L27FG13AR61	**60**	**13,8**
40	3½	3	76,2	7,1	90,4	4,6	124	55,8	L31FK13AR76	L31FG13AR76	**80**	
41	4½	3,75	95,3	8,9	113,1	7,3	159,8	69,8	L41FK13AR95	L41FG13AR95	**100**	
42	2⅜	2	50,8	6,2	63,2	2,4	85,9	38,2	L23FK15AR50	L23FG15AR50	**50**	
43	2⅞	2,23	56,6	6,1	68,8	3,1	103,9	42,6	L27FK15AR56	L27FG15AR56	**60**	**15,5**
44	3½	3,0	76,2	8,1	92,4	4,6	129,4	51,9	L31FK15AR76	L31FG15AR76	**80**	
45	4½	3,75	95,3	10,1	115,5	8,4	164,8	71,5	L41FK15AR95	L41FG15AR95	**100**	
46	2⅜	1,88	47,8	6,6	61	2,5	66,3	36,8	L23FK17AR47	L23FG17AR47	**50**	
47	2⅞	2,23	56,6	7,9	72,4	3,5	79,0	43,6	L27FK17AR56	L27FG17AR56	**60**	**17,2**
48	3½	3,0	76,2	9,1	94,4	5,2	133,7	53,2	L31FK17AR69	L31FG17AR76	**80**	
49	4½	3,75	95,3	11,4	118,1	8	170,2	65,5	L41FK17AR85	L41FG17AR95	**100**	

Oil-well and core-shell pipes with an operating pressure up to 65°C. Coupling joint.

Seq. No	Thread size, inch	ID, inch	ID, mm	Wall thickness, mm	OD, mm	Weight 1 meter of run,kg	Axial tensile load, kgf	Nominal crushing pressure, MPa	Coupling diameter, mm	Article	DN, mm	Nominal pressure, MPa
1	2⅞	2,43	61,7	3,8	69,3	1,8	5059	5,7	96,5	D27CK8AN61	**60**	**8,6**
2	4½	3,75	95,3	6	107,3	4,3	12653	5,8	147,3	D41CK8AN95	**100**	
3	6⅝	5,5	139,7	8,5	156,7	8,8	24644	5,5	195,6	D65CK8AN139	**150**	
4	9⅝	7,98	202,7	11,4	225,5	17,4	46702	4,5	281,9	D95CK8AN202	**200**	
5	2⅜	2	50,8	4,2	59,2	1,6	4609	12,4	82,6	D23CK10AN50	**50**	**10,3**
6	2⅞	2,43	61,7	4,7	71,1	2,1	6574	10,3	96,5	D27CK10AN61	**60**	
7	4½	3,75	95,3	6,9	109,1	4,9	13152	8,5	147,3	D41CK10AN95	**100**	
8	6⅝	5,5	139,7	9,5	158,7	9,8	29277	7,6	200,7	D65CK10AN139	**150**	
9	9⅝	7,98	202,7	13,7	230,1	20,7	47937	6,9	292,1	D95CK10AN202	**200**	
10	2⅜	2	50,8	4,6	60	1,8	5049	13,1	86,4	D23CK12AN50	**50**	**12,1**
11	2⅞	2,43	61,7	4,7	71,1	2,4	6667	12,1	101,6	D27CK12AN61	**60**	
12	3½	3	76,2	6,4	89	3,6	10010	11	121,9	D31CK12AN76	**80**	
13	4½	3,75	95,3	7,6	110,5	5,4	14813	11	154,9	D41CK12AN95	**100**	
14	6⅝	5,5	139,7	11,2	162,1	11,5	29081	11,7	209,6	D65CK12AN139	**150**	
15	9⅝	7,98	202,7	16,1	234,9	24,3	51986	11	302,3	D95CK12AN202	**200**	
16	2⅜	2	50,8	5,3	61,4	2,1	5835	17,2	86,4	D23CK13AN50	**50**	**13,8**
17	2⅞	2,43	61,7	6,0	73,8	2,7	7637	14,5	101,6	D27CK13AN61	**60**	
18	3½	3	76,2	7	90,2	4	11792	13,8	121,9	D31CK13AN76	**80**	
19	4½	3,75	95,3	9,3	113,9	6,7	15106	14,5	154,9	D41CK13AN95	**100**	
20	6⅝	5,5	139,7	12,7	165,1	13,1	36284	13,4	209,6	D65CK13AN139	**150**	
21	9⅝	7,98	202,7	18,5	239,7	27,9	56525	13,8	302,3	D95CK13AN202	**200**	
22	2⅜	1,88	47,8	6,6	61	2,5	7029	20,7	91,4	D23CK17AN47	**50**	**17,2**
23	2⅞	2,23	56,6	7,9	72,4	3,6	9071	20,7	106,7	D27CK17AN56	**60**	
24	3½	2,72	69,1	9,4	87,9	5,1	12699	20,7	133,4	D31CK17AN69	**80**	
25	4½	3,35	85,1	11,4	107,9	7,7	18052	20,7	162,6	D41CK17AN85	**100**	
26	2⅜	1,88	47,8	7,9	63,6	3	8223	24,1	94	D23CK20AN47	**50**	**20,7**
27	2⅞	2,23	56,6	9,5	75,6	4,3	9918	24,1	111,8	D27CK20AN56	**60**	

Oil-well and core-shell pipes with an operating pressure up to 100°C. Coupling joint.

Seq. No	Thread size, inch	ID, inch	ID, mm	Wall thickness, mm	OD, mm	Weight 1 meter of run,kg	Axial tensile load, kgf	Nominal crushing pressure, MPa	Coupling diameter, mm	Article	DN, mm	Nominal pressure, MPa
1	2⅜	2	50,8	3,8	58,4	1,5	3625	6,3	82,6	D23CK6AR50	**50**	**6,9**
2	2⅞	2,43	61,7	4,6	70,9	2,1	5669	6,2	96,5	D27CK6AR61	**60**	
3	3½	3	76,2	5,5	87,2	3,1	8376	5,7	116,8	D31CK6AR76	**80**	
4	4½	3,75	95,3	6,5	108,3	4,5	11716	4,9	147,3	D41CK6AR95	**100**	
5	2⅜	2	50,8	4,1	59	1,6	4170	7,8	82,6	D23CK8AR50	**50**	**8,6**
6	2⅞	2,43	61,7	5	71,7	2,3	5721	7,8	96,5	D27CK8AR61	**60**	
7	3½	3	76,2	5,7	87,6	3,2	7688	6,3	116,8	D31CK8AR76	**80**	
8	4½	3,75	95,3	7,2	109,7	5,1	12053	6,4	147,3	D41CK8AR95	**100**	
9	6⅝	5,5	139,7	10,1	159,9	10	24556	6	195,6	D65CK8AR139	**150**	
10	9⅝	7,98	202,7	14,8	232,3	21	46381	6	281,9	D95CK8AR202	**200**	
11	2⅜	2	50,8	5	60,8	2	4688	8,3	82,6	D23CK10AR50	**50**	**10,3**
12	2⅞	2,43	61,7	5,5	72,7	2,5	6075	8,3	96,5	D27CK10AR61	**60**	
13	3½	3	76,2	6,6	89,4	3,7	8617	7,6	116,8	D31CK10AR76	**80**	
14	4½	3,75	95,3	8,2	111,7	5,8	13690	9,2	147,3	D41CK10AR95	**100**	
15	6⅝	5,5	139,7	12,4	164,5	13	31342	8,3	200,7	D65CK10AR139	**150**	
16	9⅝	7,98	202,7	17,9	238,5	25	56895	7,6	292,1	D95CK10AR202	**200**	
17	2⅜	2	50,8	5,6	62	2,2	5039	13,2	86,4	D23CK12AR50	**50**	**12,1**
18	2⅞	2,43	61,7	6,4	74,5	2,9	6861	13,1	101,6	D27CK12AR61	**60**	
19	3½	3	76,2	8,1	92,4	4,5	11345	11,7	121,9	D31CK12AR76	**80**	
20	4½	3,75	95,3	10	115,3	7,1	17252	11,3	154,9	D41CK12AR95	**100**	
21	2⅜	2	50,8	6,4	63,6	2,5	6275	15	86,4	D23CK13AR50	**50**	**13,8**
22	2⅞	2,43	61,7	7,8	77,3	3,6	9204	14,5	101,6	D27CK13AR61	**60**	
23	3½	3	76,2	8,1	92,4	4,6	11758	13,8	121,9	D31CK13AR76	**80**	
24	4½	3,75	95,3	11,4	118,1	8,1	18558	11,5	154,9	D41CK13AR95	**100**	
25	2⅜	1,88	47,8	6,9	61,6	2,5	7306	21,4	91,4	D23CK17AR47	**50**	**17,2**
26	2⅞	2,23	56,6	9,4	75,4	4,1	10989	20,7	106,7	D27CK17AR56	**60**	

Oil-well and core-shell pipes with an operating pressure up to 100°C. Coupling joint.

Seq. No	Thread size, inch	ID, inch	ID, mm	Wall thickness, mm	OD, mm	Weight 1 meter of run,kg	Axial tensile load, kgf	Nominal crushing pressure, MPa	Coupling diameter, mm	Article	DN, mm	Nominal pressure, MPa
1	2⅜	2	50,8	3,8	58,4	1,5	3625	6,3	82,6	D23CK6AR50	**50**	**6,9**
2	2⅞	2,43	61,7	4,6	70,9	2,1	5669	6,2	96,5	D27CK6AR61	**60**	
3	3½	3	76,2	5,5	87,2	3,1	8376	5,7	116,8	D31CK6AR76	**80**	
4	4½	3,75	95,3	6,5	108,3	4,5	11716	4,9	147,3	D41CK6AR95	**100**	
5	2⅜	2	50,8	4,1	59	1,6	4170	7,8	82,6	D23CK8AR50	**50**	**8,6**
6	2⅞	2,43	61,7	5	71,7	2,3	5721	7,8	96,5	D27CK8AR61	**60**	
7	3½	3	76,2	5,7	87,6	3,2	7688	6,3	116,8	D31CK8AR76	**80**	
8	4½	3,75	95,3	7,2	109,7	5,1	12053	6,4	147,3	D41CK8AR95	**100**	
9	6⅝	5,5	139,7	10,1	159,9	10	24556	6	195,6	D65CK8AR139	**150**	
10	9⅝	7,98	202,7	14,8	232,3	21	46381	6	281,9	D95CK8AR202	**200**	
11	2⅜	2	50,8	5	60,8	2	4688	8,3	82,6	D23CK10AR50	**50**	**10,3**
12	2⅞	2,43	61,7	5,5	72,7	2,5	6075	8,3	96,5	D27CK10AR61	**60**	
13	3½	3	76,2	6,6	89,4	3,7	8617	7,6	116,8	D31CK10AR76	**80**	
14	4½	3,75	95,3	8,2	111,7	5,8	13690	9,2	147,3	D41CK10AR95	**100**	
15	6⅝	5,5	139,7	12,4	164,5	13	31342	8,3	200,7	D65CK10AR139	**150**	
16	9⅝	7,98	202,7	17,9	238,5	25	56895	7,6	292,1	D95CK10AR202	**200**	
17	2⅜	2	50,8	5,6	62	2,2	5039	13,2	86,4	D23CK12AR50	**50**	**12,1**
18	2⅞	2,43	61,7	6,4	74,5	2,9	6861	13,1	101,6	D27CK12AR61	**60**	
19	3½	3	76,2	8,1	92,4	4,5	11345	11,7	121,9	D31CK12AR76	**80**	
20	4½	3,75	95,3	10	115,3	7,1	17252	11,3	154,9	D41CK12AR95	**100**	
21	2⅜	2	50,8	6,4	63,6	2,5	6275	15	86,4	D23CK13AR50	**50**	**13,8**
22	2⅞	2,43	61,7	7,8	77,3	3,6	9204	14,5	101,6	D27CK13AR61	**60**	
23	3½	3	76,2	8,1	92,4	4,6	11758	13,8	121,9	D31CK13AR76	**80**	
24	4½	3,75	95,3	11,4	118,1	8,1	18558	11,5	154,9	D41CK13AR95	**100**	
25	2⅜	1,88	47,8	6,9	61,6	2,5	7306	21,4	91,4	D23CK17AR47	**50**	**17,2**
26	2⅞	2,23	56,6	9,4	75,4	4,1	10989	20,7	106,7	D27CK17AR56	**60**	

MAIN PARAMETERS OF PIPES WITH 2-4RD + O-RING THREADED CONNECTION

Line pipes with the operating temperature up to 100°C. Socket connection.

Seq. No	Nominal diameter, inch	ID, inch	ID, mm	Wall thickness, mm	OD, mm	Weight 1 meter of run,kg	Socket diameter, mm	Min. bending radius, m	Article	DN, mm	Nominal pressure, MPa
1	4 (4RD)	3,9	99,3	3,0	105,3	2,4	138,9	63,5	L4FML3AR99	**100**	**3,4**
2	6 (4RD)	5,85	148,6	3,8	156,2	4,2	196,3	93,6	L6FML3AR148	**150**	
3	8 (2RDs)	7,74	196,6	4,5	205,6	7,1	259,5	123,9	L8FMS3AR196	**200**	
4	10 (2RDs)	9,84	249,9	5,5	260,9	11,1	320,3	157,2	L10FMS3AR249	**250**	
5	10 (2RDl)	9,84	249,9	5,5	260,9	14,4	325	157,2	L10FML3AR249	**250**	
6	12 (2RDl)	11,81	300	6,8	313,6	16,7	388,2	188,9	L12FML3AR300	**300**	
7	4 (4RD)	3,9	99,3	3,0	105,3	2,4	140,4	63,8	L4FML4AR99	**100**	**4**
8	6 (4RD)	5,85	148,6	3,8	156,2	5,6	199,1	95,5	L6FML4AR148	**150**	
9	8 (2RDs)	7,74	196,6	5,0	206,6	7,8	264,3	124,8	L8FMS4AR196	**200**	
10	10 (2RDs)	9,84	249,9	6,4	262,7	13,3	325,2	158,7	L10FMS4AR249	**250**	
11	10 (2RDl)	9,84	249,9	6,4	262,7	13,5	329,8	158,7	L10FML4AR249	**250**	
12	12 (2RDl)	11,81	300	7,7	315,4	18,7	394,8	190,1	L12FML4AR300	**300**	
13	4 (4RD)	3,9	99,3	3,5	106,3	2,7	144	64,1	L4FML5AR99	**100**	**5,5**
14	6 (4RD)	5,85	148,6	5,3	159,2	6,0	206	95,9	L6FML5AR148	**150**	
15	8 (2RDs)	7,74	196,6	7	210,6	10,6	275,2	126,7	L8FMS5AR196	**200**	
16	10 (2RDs)	9,84	249,9	8,8	267,5	16,9	338,2	160,9	L10FMS5AR249	**250**	
17	10 (2RDl)	9,84	249,9	8,8	267,5	17,2	343	160,9	L10FML5AR249	**250**	
18	12 (2RDl)	11,81	300	10,6	321,2	25,1	413	193,6	L12FML5AR300	**300**	
19	4 (4RD)	3,9	99,3	4,5	108,3	3,3	147,3	65,2	L4FML6AR99	**100**	**6,9**
20	6 (4RD)	5,85	148,6	6,7	162	7,4	212,4	97,6	L6FML6AR148	**150**	
21	8 (2RDs)	7,74	196,6	8,8	214,2	13,8	285,9	129,2	L8FMS6AR196	**200**	
22	10 (2RDs)	9,84	249,9	11,2	272,3	20,8	350,5	163,7	L10FMS6AR249	**250**	
23	10 (2RDl)	9,84	249,9	11,2	272,3	21,1	354,9	163,7	L10FML6AR249	**250**	
24	12 (2RDl)	11,81	300	13,4	326,8	31,3	428,5	196,5	L12FML6AR300	**300**	
25	4 (4RD)	3,9	99,3	5,6	110,5	4,0	151,3	67,9	L4FML8AR99	**100**	**8,6**
26	6 (4RD)	5,85	148,6	8,4	165,4	9,2	220,2	99,7	L6FML8AR148	**150**	
27	8 (2RDl)	7,74	196,6	11,1	218,8	17,0	309,8	131,8	L8FML8AR196	**200**	
28	10 (2RDl)	9,84	249,9	14,1	278,1	26,5	370,8	167,2	L10FML8AR249	**250**	
29	12 (2RDl)	11,81	300	16,6	333,2	38,8	449,5	200,6	L12FML8AR300	**300**	

Line pipes with the operating temperature up to **65°C**.
Socket connection.

Seq. No	Nominal diameter, inch	ID, inch	ID, mm	Wall thickness, mm	OD, mm	Weight 1 meter of run, kg	Socket diameter, mm	Min. bending radius, m	Article	DN, mm	Nominal pressure, MPa
Oil and gas emulsion and water pumping											
1	4 (4RD)	3,9	99,3	3	105,3	2,4	137,9	64,1	L4FML3AN99	**100**	**3,4**
2	6 (4RD)	5,85	148,6	3	154,6	3,8	193,3	94,1	L6FML3AN148	**150**	
3	8 (2RDs)	7,74	196,6	4	204,6	6,2	253,9	124,5	L8FMS3AN196	**200**	
4	10 (2RDs)	9,84	249,9	4,5	258,9	9,3	314,5	157,5	L10FMS3AN249	**250**	
5	10 (2RDl)	9,84	249,9	4,5	258,9	9,6	319,2	157,5	L10FML3AN249	**250**	
6	12 (2RDl)	11,81	300	5,3	310,6	13,6	381	188,9	L12FML3AN300	**300**	
7	4 (4RD)	3,9	99,3	3	105,3	2,4	139,2	64,2	L4FML4AN99	**100**	**4**
8	6 (4RD)	5,85	148,6	3,1	154,8	3,8	195,3	95,4	L6FML4AN148	**150**	
9	8 (2RDs)	7,74	196,6	4,1	204,8	6,5	257,9	124,8	L8FMS4AN196	**200**	
10	10 (2RDs)	9,84	249,9	5,2	260,3	10,5	318	158,8	L10FMS4AN249	**250**	
11	10 (2RDl)	9,84	249,9	5,2	260,3	10,8	322,9	158,8	L10FML4AN249	**250**	
12	12 (2RDl)	11,81	300	6,2	312,4	15,5	385,8	190,1	L12FML4AN300	**300**	
13	4 (4RD)	3,9	99,3	3	105,3	2,4	142,3	64,1	L4FML5AN99	**100**	**5,5**
14	6 (4RD)	5,85	148,6	4,3	157,2	4,9	199,9	95,6	L6FML5AN148	**150**	
15	8 (2RDs)	7,74	196,6	5,7	208	8,7	265,9	126,3	L8FMS5AN196	**200**	
16	10 (2RDs)	9,84	249,9	7,2	264,3	14,0	327,9	160,5	L10FMS5AN249	**250**	
17	10 (2RDl)	9,84	249,9	7,2	264,3	14,3	333,8	160,5	L10FML5AN249	**250**	
18	12 (2RDl)	11,81	300	8,6	317,2	20,6	399	192,8	L12FML5AN300	**300**	
19	4 (4RD)	3,9	99,3	3,6	106,5	2,8	145,4	64,8	L4FML6AN99	**100**	**6,9**
20	6 (4RD)	5,85	148,6	5,4	159,4	6,0	204,6	96,3	L6FML6AN148	**150**	
21	8 (2RDs)	7,74	196,6	7,2	211	10,8	275,4	128,1	L8FMS6AN196	**200**	
22	10 (2RDs)	9,84	249,9	10,5	268,1	17,4	337,9	162,1	L10FMS6AN249	**250**	
23	10 (2RDl)	9,84	249,9	10,5	268,1	17,7	343,2	162,1	L10FML6AN249	**250**	
24	12 (2RDl)	11,81	300	10,9	321,8	25,5	410,9	194,5	L12FML6AN300	**300**	
25	4 (4RD)	3,9	99,3	4,5	108,3	3,3	146,8	65,9	L4FML8AN99	**100**	**8,6**
26	6 (4RD)	5,85	148,6	6,9	162,2	7,5	210,7	97,9	L6FML8AN148	**150**	
27	8 (2RDl)	7,74	196,6	9	214,6	13,7	294	130,1	L8FML8AN196	**200**	
28	10 (2RDl)	9,84	249,9	11,4	272,7	21,8	353,8	164,9	L10FML8AN249	**250**	
29	12 (2RDl)	11,81	300	13,7	327,4	31,8	426,7	197,6	L12FML8AN300	**300**	

SHAPED PRODUCTS

Technical specification

BASIC PARAMETERS FOR SHAPED PRODUCTS

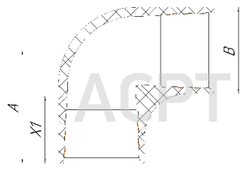


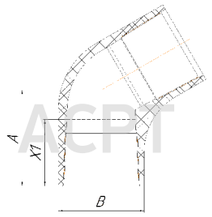
Table 1.
90º branch

Seq. No.	Connection size, inch	A, mm	B, mm	X1, mm	Weight, kg	Article	DN, mm	Nominal pressure, MPa
1	6-5/8	231,9	186,0	98,4	8,9	E9065F4	**150**	
2	9-5/8	308,2	270,0	120,7	20,4	E9095F4	**200**	
3	6 (4RD)	267,3	198,0	158,1	10,8	E9064FML4	**150**	
4	8 (2RDs)	268,7	264,5	131,7	18,0	E9082FMS4	**200**	**4**
5	10 (2RDs)	332,5	330,0	159,0	33,8	E90102FMS4	**250**	
6	10 (2RDl)	401,5	330,0	226,0	40,4	E90102FML4	**250**	
7	12 (2RDl)	429,0	392,0	226,0	52,1	E90122FML4	**300**	
8	2-7/8	155,7	90,0	73,0	1,6	E9027F5	**60**	
9	3-1/2	174,7	109,0	79,4	2,4	E9031F5	**80**	
10	4-1/2	212,8	138,0	88,9	4,4	E9041F5	**100**	
11	6-5/8	231,9	193,0	98,4	11,5	E9065F5	**150**	
12	9-5/8	308,2	280,4	120,7	25,8	E9095F5	**200**	
13	6 (4RD)	267,3	205,2	158,1	12,0	E9064FML5	**150**	**5,5**
14	8 (2RDs)	268,7	270,5	131,7	24,0	E9082FMS5	**200**	
15	10 (2RDs)	332,5	337,8	159,0	39,0	E90102FMS5	**250**	
16	10 (2RDl)	401,5	337,8	226,0	46,5	E90102FML5		
17	12 (2RDl)	429,0	401,2	226,0	62,0	E90122FML5	**300**	
18	6-5/8	231,9	200,7	98,4	13,9	E9065F6	**150**	
19	9-5/8	308,2	288,3	120,7	29,9	E9095F6	**200**	
20	6 (4RDl)	267,3	211,9	158,1	14,0	E9064FML6	**150**	
21	8 (2RDs)	268,7	279,7	131,7	25,6	E9082FMS6	**200**	**6,9**
22	10 (2RDs)	332,5	350,2	159,0	44,5	E90102FMS6	**250**	
23	10 (2RDl)	401,5	350,2	226,0	56,5	E90102FML6	**250**	
24	12 (2RDl)	429,0	415,6	226,0	78,1	E90122FML6	**300**	

Table 1. Continuation.
90 ° branch

Seq. No.	Connection size, inch	A, mm	B, mm	X1, mm	Weight, kg	Article	DN, mm	Nominal pressure, MPa
25	2-3/8	136,6	81,3	65,1	1,7	E9023F8	**50**	
26	2-7/8	155,7	99,1	73,0	2,9	E9027F8	**60**	
27	3-1/2	174,7	119,4	79,4	3,7	E9031F8	**80**	
28	4-1/2	212,8	149,9	88,9	7,1	E9041F8	**100**	
29	6-5/8	231,9	208,3	98,4	16,4	E9065F8	**150**	
30	9-5/8	308,2	300,2	130,3	36,5	E9095F8	**200**	**8,6**
31	4 (4RD)	223,5	155,9	125,9	8,3	E9044FML8	**100**	
32	6 (4RD)	267,3	221,5	158,1	19,8	E9064FML8	**150**	
33	8 (2RDl)	365,0	287,8	226,0	41,2	E9082FML8	**200**	
34	10 (2RDl)	401,5	365,3	226,0	69,7	E90102FML8	**250**	
35	12 (2RDl)	429,0	434,2	226,0	97,8	E90122FML8	**300**	
36	6-5/8	231,9	218,4	98,4	19,8	E9065F10	**150**	**10,3**
37	9-5/8	308,2	312,8	130,3	43,7	E9095F10	**200**	
38	2-3/8	136,6	91,8	65,1	2,7	E9023F13	**50**	
39	2-7/8	155,7	109,5	73,0	3,9	E9027F13	**60**	
40	3-1/2	174,7	132,8	79,4	5,1	E9031F13	**80**	**13,8**
41	4-1/2	212,8	170,2	98,6	11,2	E9041F13	**100**	
42	6-5/8	231,9	234,3	98,4	25,4	E9065F13	**150**	
43	9-5/8	308,2	340,3	130,3	58,0	E9095F13	**200**	
44	2-3/8	136,6	99,1	65,1	3,3	E9023F17	**50**	
45	2-7/8	155,7	116,8	73,0	4,7	E9027F17	**60**	**17,2**
46	3-1/2	174,7	142,2	79,4	7,5	E9031F17	**80**	
47	4-1/2	212,8	182,9	88,9	14,0	E9041F17	**100**	
48	2-3/8	136,6	106,7	65,1	4,1	E9023F20	**50**	
49	2-7/8	155,7	127,0	73,0	6,0	E9027F20	**60**	**20,7**
50	3-1/2	174,7	152,4	79,4	10,1	E9031F20	**80**	
51	4-1/2	212,8	195,6	88,9	16,8	E9041F20	**100**	
52	2-3/8	136,6	124,5	65,1	5,9	E9023F24	**50**	
53	2-7/8	155,7	148,4	73,0	9,3	E9027F24	**60**	**24,1**
54	3-1/2	174,7	179,9	79,4	16,0	E9031F24	**80**	
55	4-1/2	212,8	228,0	88,9	25,3	E9041F24	**100**	

Table 2.
60º branch



Seq. No.	Connection size, inch	A, mm	B, mm	X1, mm	Weight, kg	Article	DN, mm	Nominal pressure, MPa
1	6-5/8	206,1	186,0	98,4	7,8	E6065F4	**150**	
2	9-5/8	248,6	270,0	120,7	17,3	E6095F4	**200**	
3	6 (4RD)	229,0	198,0	158,1	9,1	E6064FM4	**150**	
4	8 (2RDs)	215,9	264,5	131,7	14,0	E6082FMS4	**200**	**4,0**
5	10 (2RDs)	273,5	330,0	159,0	28,9	E60102FMS4	**250**	
6	10 (2RDl)	342,5	330,0	226,0	35,3	E60102FML4	**250**	
7	12 (2RDl)	358,4	392,0	226,0	51,4	E60122FML4	**300**	
8	2-7/8	135,3	90,0	73,0	1,6	E6027F5	**60**	
9	3-1/2	146,3	109,0	79,4	2,0	E6031F5	**80**	
10	4-1/2	180,0	138,0	88,9	3,6	E6041F5	**100**	
11	6-5/8	206,1	193,0	98,4	9,6	E6065F5	**150**	
12	9-5/8	248,6	280,4	120,7	21,9	E6095F5	**200**	
13	6 (4RD)	229,0	205,2	158,1	11,0	E6064FM5	**150**	**5,5**
14	8 (2RDs)	215,9	270,5	131,7	19,6	E6082FMS5	**200**	
15	10 (2RDs)	273,5	337,8	159,0	33,4	E60102FMS5	**250**	
16	10 (2RDl)	342,5	337,8	226,0	40,8	E60102FML5	**250**	
17	12 (2RDl)	358,4	401,2	226,0	58,6	E60122FML5	**300**	
18	6-5/8	206,1	200,7	98,4	11,7	E6065F6	**150**	
19	9-5/8	248,6	288,3	120,7	25,6	E6095F6	**200**	
20	6 (4RD)	229,0	211,9	158,1	13,3	E6064FML6	**150**	
21	8 (2RDs)	215,9	279,7	131,7	25,1	E6082FMS6	**200**	**6,9**
22	10 (2RDs)	273,5	350,2	159,0	43,8	E60102FMS6	**250**	
23	10 (2RDl)	342,5	350,2	226,0	49,8	E60102FML6	**250**	
24	12 (2RDl)	358,4	415,6	226,0	74,9	E60122FML6	**300**	
25	2-3/8	122,3	81,3	65,1	1,5	E6023F8	**50**	
26	2-7/8	135,3	99,1	73,0	2,5	E6027F8	**60**	
27	3-1/2	146,3	119,4	79,4	3,5	E6031F8	**80**	
28	4-1/2	180,0	149,9	88,9	6,6	E6041F8	**100**	
29	6-5/8	206,1	208,3	98,4	13,8	E6065F8	**150**	
30	9-5/8	248,6	300,2	120,7	31,2	E6095F8	**200**	**8,6**
31	4 (4RD)	182,0	155,9	125,9	6,6	E6044FML8	**100**	
32	6 (4RD)	229,0	221,5	158,1	17,9	E6064FML8	**150**	
33	8 (2RDl)	312,2	287,8	226,0	36,6	E6082FML8	**200**	
34	10 (2RDl)	342,5	365,3	226,0	61,9	E60102FML8	**250**	
35	12 (2RDl)	358,4	434,2	226,0	92,0	E60122FML8	**300**	

Table 2. Continuation.
60 ° branch

Seq. No.	Connection size, inch	A, mm	B, mm	X1, mm	Weight, kg	Article	DN, mm	Nominal pressure, MPa
36	6-5/8	206,1	218,4	98,4	16,8	E6065F10	**150**	**10,3**
37	9-5/8	248,6	312,8	120,7	37,4	E6095F10	**200**	
38	2-3/8	122,3	91,8	65,1	2,4	E6023F13	**50**	
39	2-7/8	135,3	109,5	73,0	3,4	E6027F13	**60**	
40	3-1/2	146,3	132,8	79,4	4,9	E6031F13	**80**	
41	4-1/2	180,0	170,2	88,9	10,5	E6041F13	**100**	**13,8**
42	6-5/8	206,1	234,3	98,4	21,7	E6065F13	**150**	
43	9-5/8	248,6	340,3	120,7	49,6	E6095F13	**200**	
44	2-3/8	122,3	99,1	65,1	3,0	E6023F17	**50**	
45	2-7/8	135,3	116,8	73,0	4,1	E6027F17	**60**	
46	3-1/2	146,3	142,2	79,4	6,2	E6031F17	**80**	**17,2**
47	4-1/2	180,0	182,9	88,9	13,0	E6041F17	**100**	
48	2-3/8	122,3	106,7	65,1	3,8	E6023F20	**50**	
49	2-7/8	135,3	127,0	73,0	5,2	E6027F20	**60**	
50	3-1/2	146,3	152,4	79,4	7,7	E6031F20	**80**	**20,7**
51	4-1/2	180,0	195,6	88,9	15,7	E6041F20	**100**	
52	2-3/8	122,3	124,5	65,1	5,3	E6023F24	**50**	
53	2-7/8	135,3	148,4	73,0	7,9	E6027F24	**60**	
54	3-1/2	146,3	179,9	79,4	12,2	E6031F24	**80**	**24,1**
55	4-1/2	180,0	228,0	88,9	23,8	E6041F24	**100**	

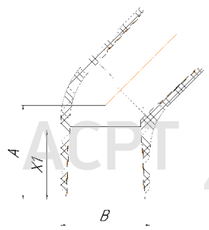


Table 3.
45º branch

Seq. No.	Connection size, inch	A, mm	B, mm	X1, mm	Weight, kg	Article	DN, мм	Nominal pressure, MPa
1	6-5/8	177,9	186,0	98,4	6,7	E4565F4	**150**	
2	9-5/8	209,3	270,0	120,7	14,7	E4595F4	**200**	
3	6 (4RD)	216,2	198,0	158,1	7,9	E4564FML4	**150**	
4	8 (2RDs)	201,1	264,5	131,7	14,6	E4582FMS4	**200**	**4,0**
5	10 (2RDs)	252,4	330,0	159,0	27,2	E45102FMS4	**250**	
6	10 (2RDl)	252,4	330,0	226,0	33,2	E45102FML4	**250**	
7	12 (2RDl)	332,8	392,0	226,0	46,4	E45122FML4	**300**	

Table 3. Continuation.
45 ° branch

Seq. No.	Connection size, inch	A, mm	B, mm	X1, mm	Weight, kg	Article	DN, mm	Nominal pressure, MPa
8	2-7/8	127,1	90,0	73,0	1,5	E4527F5	**60**	
9	3-1/2	136,6	109,0	79,4	1,8	E4531F5	**80**	
10	4-1/2	162,0	138,0	88,9	3,1	E4541F5	**100**	
11	6-5/8	177,9	193,0	98,4	8,7	E4565F5	**150**	
12	9-5/8	209,3	279,2	120,7	18,6	E4595F5	**200**	**5,5**
13	6 (4RD)	216,2	204,9	158,1	11,5	E4564FML5	**150**	
14	8 (2RDs)	201,12	270,5	131,7	17,0	E4582FMS5	**200**	
15	10 (2RDs)	52,4	337,8	159,0	31,5	E45102FMS5	**250**	
16	10 (2RDl)	321,4	337,8	226,0	38,4	E45102FML5	**250**	
17	12 (2RDl)	332,8	401,2	226,0	52,9	E45122FML5	**300**	
18	6-5/8	177,9	198,4	98,4	10,0	E4565F6	**150**	
19	9-5/8	209,3	288,2	120,7	21,7	E4595F6	**200**	
20	6 (4RD)	216,2	212,1	158,1	13,0	E4564FML6	**150**	
21	8 (2RDs)	201,1	279,7	131,7	20,0	E4582FMS6	**200**	**6,9**
22	10 (2RDs)	252,4	350,2	159,0	42,9	E45102FMS6	**250**	
23	10 (2RDl)	321,4	350,2	226,0	47,0	E45102FML6	**250**	
24	12 (2RDl)	332,8	415,6	226,0	69,6	E45122FML6	**300**	
25	2-3/8	117,6	81,3	65,1	1,5	E4523F8	**50**	
26	2-7/8	127,1	96,5	73,0	2,1	E4527F8	**60**	
27	3-1/2	136,6	117,4	79,4	2,8	E4531F8	**80**	
28	4-1/2	162,0	148,3	88,9	5,0	E4541F8	**100**	
29	6-5/8	177,9	206,5	98,4	12,0	E4565F8	**150**	
30	9-5/8	209,3	300,2	120,7	26,6	E4595F8	**200**	
31	4 (4RD)	173,4	156,2	125,9	6,1	E4544FML8	**100**	**8,6**
32	6 (4RD)	216,2	220,8	158,1	15,1	E4564FML8	**150**	
33	8 (2RDl)	294,4	291,6	226,0	33,5	E4582FML8	**200**	
34	10 (2RDl)	321,4	365,3	226,0	59,6	E45102FML8	**250**	
35	12 (2RDl)	332,8	434,2	226,0	85,3	E45122FML8	**300**	
36	6-5/8	177,9	215,9	98,4	14,4	E4565F10	**150**	**10,3**
37	9-5/8	209,3	312,4	120,7	31,9	E4595F10	**200**	

Table 3. Continuation.
45 ° branch

Seq. No.	Connection size, inch	A, mm	B, mm	X1, mm	Weight, kg	Article	DN, mm	Nominal pressure, MPa
38	2-3/8	117,6	91,8	65,1	2,3	E4523F13	**50**	
39	2-7/8	127,1	109,4	73,0	3,2	E4527F13	**60**	
40	3-1/2	136,6	132,8	79,4	4,6	E4531F13	**80**	**13,8**
41	4-1/2	162,0	167,8	88,9	8,1	E4541F13	**100**	
42	6-5/8	177,9	234,3	98,4	15,0	E4565F13	**150**	
43	9-5/8	209,3	340,0	20,7	42,4	E4595F13	**200**	
44	2-3/8	117,6	96,5	65,1	2,9	E4523F17	**50**	
45	2-7/8	127,1	114,3	73,0	3,7	E4527F17	**60**	
46	3-1/2	136,6	139,7	79,4	5,7	E4531F17	**80**	**17,2**
47	4-1/2	162,0	177,8	88,9	10,2	E4541F17	**100**	
48	2-3/8	117,6	103,5	65,1	3,6	E4523F20	**50**	
49	2-7/8	127,1	123,7	73,0	4,6	E4527F20	**60**	
50	3-1/2	136,6	149,8	79,4	7,0	E4531F20	**80**	**20,7**
51	4-1/2	162,0	190,5	88,9	12,2	E4541F20	**100**	
52	2-3/8	117,6	115,2	65,1	5,2	E4523F24	**50**	
53	2-7/8	127,1	137,2	73,0	6,0	E4527F24	**60**	
54	3-1/2	136,6	167,6	79,4	11,2	E4531F24	**80**	**24,1**
55	4-1/2	162,0	210,8	88,9	16,9	E4541F24	**100**	

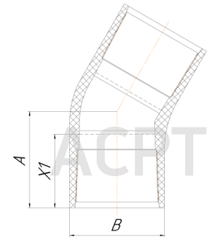


Table 4.
30 ° branch

Seq. No.	Connection size, inch	A, mm	B, mm	X1, mm	Weight, kg	Article	DN, mm	Nominal pressure, MPa
1	6-5/8	177,9	186,0	98,4	6,7	E3065F4	**150**	
2	9-5/8	196,9	270,0	120,7	13,4	E3095F4	**200**	
3	6 (4RD)	208,9	198,0	158,1	7,1	E3064FML4	**150**	
4	8 (2RDs)	188,1	264,5	131,7	10,9	E3082FMS4	**200**	**4,0**
5	10 (2RDs)	232,5	330,0	159,0	25,8	E30102FMS4	**250**	
6	10 (2RDl)	301,5	330,0	226,0	30,9	E30102FML4	**250**	
7	12 (2RDl)	308,9	392,0	226,0	39,6	E30122FML4	**300**	

Table 4. Continuation.
30 ° branch

Seq. No.	Connection size, inch	A, mm	B, mm	X1, mm	Weight, kg	Article	DN, mm	Nominal pressure, MPa
8	2-7/8	127,1	90,0	73,0	1,5	E3027F5	**60**	
9	3-1/2	136,6	109,0	79,4	1,8	E3031F5	**80**	
10	4-1/2	162,0	138,0	88,9	3,1	E3041F5	**100**	
11	6-5/8	177,9	193,0	98,4	8,7	E3065F5	**150**	
12	9-5/8	196,9	279,2	120,7	17,1	E3095F5	**200**	**5,5**
13	6 (4RD)	208,9	204,9	158,1	10,4	E3064FML5	**150**	
14	8 (2RDs)	188,1	270,5	131,7	15,9	E3082FMS5	**200**	
15	10 (2RDs)	232,5	337,8	159,0	28,3	E30102FMS5	**250**	
16	10 (2RDl)	301,5	337,8	226,0	35,9	E30102FML5	**250**	
17	12 (2RDl)	308,9	401,2	226,0	44,2	E30122FML5	**300**	
18	6-5/8	177,9	198,4	98,4	10,0	E3065F5	**150**	
19	9-5/8	196,9	288,2	120,7	19,9	E3095F6	**200**	
20	6 (4RD)	208,9	212,1	158,1	12,4	E3064FML6	**150**	
21	8 (2RDs)	188,1	279,7	131,7	19,0	E3082FMS6	**200**	**6,9**
22	10 (2RDs)	232,5	350,2	159,0	40,1	E30102FMS6	**250**	
23	10 (2RDl)	301,5	350,2	226,0	43,9	E30102FML6	**250**	
24	12 (2RDl)	308,9	415,6	226,0	56,8	E30122FML6	**300**	
25	2-3/8	117,6	81,3	65,1	1,5	E3023F8	**50**	
26	2-7/8	127,1	96,5	73,0	2,1	E3027F8	**60**	
27	3-1/2	136,6	117,4	79,4	2,9	E3031F8	**80**	
28	4-1/2	162,0	148,3	88,9	5,6	E3041F8	**100**	
29	6-5/8	177,9	206,5	98,4	12,0	E3065F8	**150**	
30	9-5/8	196,9	300,2	120,7	24,4	E3095F8	**200**	**8,6**
31	4 (4RD)	169,8	156,2	125,9	5,8	E3044FML8	**100**	
32	6 (4RD)	208,9	220,8	158,1	14,8	E3064FML8	**150**	
33	8 (2RDl)	284,4	291,6	226,0	31,1	E3082FML8	**200**	
34	10 (2RDl)	301,5	365,3	226,0	55,2	E30102FML8	**250**	
35	12 (2RDl)	308,9	434,2	226,0	70,0	E30122FML8	**300**	
36	6-5/8	177,9	215,9	98,4	14,4	E3065F10	**150**	**10,3**
37	9-5/8	196,9	312,4	120,7	29,3	E3095F10	**200**	
38	2-3/8	117,6	91,8	65,1	2,3	E3023F13	**50**	
39	2-7/8	127,1	109,4	73,0	3,2	E3027F13	**60**	
40	3-1/2	136,6	132,8	79,4	4,4	E3031F13	**80**	**13,8**
41	4-1/2	162,0	167,8	88,9	9,0	E3041F13	**100**	
42	6-5/8	177,9	234,3	98,4	19,5	E3065F13	**150**	
43	9-5/8	196,9	340,0	120,7	39,0	E3095F13	**200**	

Table 4. Continuation.
30 ° branch

Seq. No.	Connection size, inch	A, mm	B, mm	X1, mm	Weight, kg	Article	DN, mm	Nominal pressure, MPa
44	2-3/8	117,6	96,5	65,1	3,0	E3023F17	**50**	**17,2**
45	2-7/8	127,1	114,3	73,0	3,7	E3027F17	**60**	
46	3-1/2	136,6	139,7	79,4	5,6	E3031F17	**80**	
47	4-1/2	162,0	177,8	88,9	11,2	E3041F17	**100**	
48	2-3/8	117,6	103,5	65,1	3,7	E3023F20	**50**	**20,7**
49	2-7/8	127,1	123,7	73,0	4,6	E3027F20	**60**	
50	3-1/2	136,6	149,8	79,4	6,9	E3031F20	**80**	
51	4-1/2	162,0	190,5	88,9	13,5	E3041F20	**100**	
52	2-3/8	117,6	115,2	65,1	5,2	E3023F24	**50**	**24,1**
53	2-7/8	127,1	137,2	73,0	5,8	E3027F24	**60**	
54	3-1/2	136,6	167,6	79,4	11,0	E3031F24	**80**	
55	4-1/2	162,0	210,8	88,9	18,7	E3041F24	**100**	

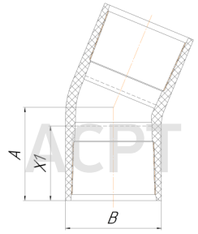


Table 5.
22.5 ° branch

Seq. No.	Connection size, inch	A, mm	B, mm	X1, mm	Weight, kg	Article	DN, mm	Nominal pressure, MPa
1	6-5/8	155,7	186,0	98,4	5,7	E2265F4	**150**	
2	9-5/8	196,9	270,0	120,7	13,1	E2295F4	**200**	
3	6 (4RD)	198,8	198,0	158,1	6,4	E2264FML4	**150**	
4	8 (2RDs)	183,7	264,5	131,7	12,7	E2282FMS4	**200**	**4,0**
5	10 (2RDs)	223,9	330,0	159,0	23,9	E22102FMS4	**250**	
6	10 (2RDl)	223,9	330,0	226,0	29,9	E22102FML4	**250**	
7	12 (2RDl)	298,3	392,0	226,0	39,3	E22122FML4	**300**	

Table 5. Continuation.
22.5 ° branch

Seq. No.	Connection size, inch	A, mm	B, mm	X1, mm	Weight, kg	Article	DN, mm	Nominal pressure, MPa
8	2-7/8	120,3	90,0	73,0	1,5	E2227F5	**60**	
9	3-1/2	123,9	109,0	79,4	1,6	E2231F5	**80**	
10	4-1/2	136,6	138,0	88,9	2,5	E2241F5	**100**	
11	6-5/8	155,7	191,8	98,4	7,2	E2265F5	**150**	
12	9-5/8	196,9	279,2	120,7	16,7	E2295F5	**200**	**5,5**
13	6 (4RD)	198,8	204,9	158,1	8,4	E2264FML5	**150**	
14	8 (2RDs)	183,7	270,5	131,7	14,8	E2282FMS5	**200**	
15	10 (2RDs)	223,9	337,8	159,0	27,0	E22102FMS5	**250**	
16	10 (2RDl)	223,9	337,8	226,0	34,7	E22102FML5	**250**	
17	12 (2RDl)	298,3	401,2	226,0	44,9	E22122FML5	**300**	
18	6-5/8	155,7	198,4	98,4	8,6	E2265F6	**150**	
19	9-5/8	196,9	288,2	120,7	19,5	E2295F6	**200**	
20	6 (4RD)	198,8	212,1	158,1	10,4	E2264FML6	**150**	
21	8 (2RDs)	183,7	280,0	131,7	18,0	E2282FMS6	**200**	**6,9**
22	10 (2RDs)	223,9	350,2	159,0	38,7	E22102FMS6	**250**	
23	10 (2RDl)	292,9	350,2	226,0	42,6	E22102FML6	**250**	
24	12 (2RDl)	298,3	415,6	226,0	57,9	E22122FML6	**300**	
25	2-3/8	111,2	81,3	65,1	1,4	E2223F8	**50**	
26	2-7/8	120,3	96,5	73,0	2,0	E2227F8	**60**	
27	3-1/2	123,9	117,2	79,4	2,7	E2231F8	**80**	
28	4-1/2	136,6	148,3	88,9	4,1	E2241F8	**100**	
29	6-5/8	155,7	206,8	98,4	10,4	E2265F8	**150**	
30	9-5/8	196,9	300,8	120,7	23,9	E2295F8	**200**	**8,6**
31	4 (4RD)	161,5	155,9	125,9	5,3	E2244FML8	**100**	
32	6 (4RD)	198,8	220,6	158,1	12,7	E2264FML8	**150**	
33	8 (2RDl)	271,6	291,3	226,0	29,0	E2282FML8	**200**	
34	10 (2RDl)	292,9	365,0	226,0	53,5	E22102FML8	**250**	
35	12 (2RDl)	298,3	434,2	226,0	71,5	E22122FML8	**300**	
36	6-5/8	155,7	215,9	98,4	12,4	E2265F10	**150**	**10,3**
37	9-5/8	196,9	307,3	120,7	28,7	E2295F10	**200**	
38	2-3/8	111,2	88,9	65,1	2,2	E2223F13	**50**	
39	2-7/8	120,3	106,7	73,0	2,8	E2227F13	**60**	
40	3-1/2	123,9	129,5	79,4	4,0	E2231F13	**80**	**13,8**
41	4-1/2	136,6	162,6	88,9	6,6	E2241F13	**100**	
42	6-5/8	155,7	227,0	98,4	15,0	E2265F13	**150**	
43	9-5/8	196,9	330,2	120,7	38,3	E2295F13	**200**	

Table 5. Continuation.
22.5 ° branch

Seq. No.	Connection size, inch	A, mm	B, mm	X1, mm	Weight, kg	Article	DN, mm	Nominal pressure, MPa
44	2-3/8	111,2	96,5	65,1	2,9	E2223F17	**50**	
45	2-7/8	120,3	114,3	73,0	3,5	E2227F17	**60**	**17,2**
46	3-1/2	123,9	137,2	79,4	5,2	E2231F17	**80**	
47	4-1/2	136,6	173,5	88,9	8,2	E2241F17	**100**	
48	2-3/8	111,2	101,9	65,1	3,5	E2223F20	**50**	
49	2-7/8	120,3	121,9	73,0	4,2	E2227F20	**60**	**20,7**
50	3-1/2	123,9	147,3	79,4	6,4	E2231F20	**80**	
51	4-1/2	136,6	186,6	88,9	10,0	E2241F20	**100**	
52	2-3/8	111,2	114,3	65,1	5,1	E2223F24	**50**	
53	2-7/8	120,3	137,2	73,0	5,8	E2227F24	**60**	**24,1**
54	3-1/2	123,9	164,0	79,4	10,1	E2231F24	**80**	
55	4-1/2	136,6	208,2	88,9	13,8	E2241F24	**100**	

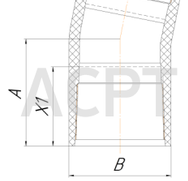


Table 6.
11,25° branch

Seq. No.	Connection size, inch	A, mm	B, mm	X1, mm	Weight, kg	Article	DN, mm	Nominal pressure, MPa
1	6-5/8	177,9	186,0	98,4	6,3	E1165F4	**150**	
2	9-5/8	196,9	270,0	120,7	12,8	E1195F4	**200**	
3	6 (4RD)	215,1	198,0	158,1	8,0	E1164FML4	**150**	
4	8 (2RDs)	190,1	264,5	131,7	14,0	E1182FMS4	**200**	**4,0**
5	10 (2RDs)	220,1	330,0	159,0	22,2	E11102FMS4	**250**	
6	10 (2RDl)	289,1	330,0	226,0	30,3	E11102FML4	**250**	
7	12 (2RDl)	291,8	392,0	226,0	40,5	E11122FML4	**300**	

Table 6. Continuation.
11.25 ° branch

Seq. No.	Connection size, inch	A, mm	B, mm	X1, mm	Weight, kg	Article	DN, mm	Nominal pressure, MPa
8	2-7/8	145,1	90,0	73,0	1,8	E1127F5	**60**	
9	3-1/2	149,3	109,0	79,4	1,9	E1131F5	**80**	
10	4-1/2	162,0	138,0	88,9	2,5	E1141F5	**100**	
11	6-5/8	177,9	191,8	98,4	7,9	E1165F5	**150**	
12	9-5/8	196,9	279,2	120,7	15,8	E1195F5	**200**	**5,5**
13	6 (4RD)	215,1	204,9	158,1	9,8	E1164FML5	**150**	
14	8 (2RDs)	190,1	270,4	131,7	14,6	E1182FMS5	**200**	
15	10 (2RDs)	220,1	337,8	159,0	27,2	E11102FMS5	**250**	
16	10 (2RDl)	289,1	337,8	226,0	35,0	E11102FML5	**250**	
17	12 (2RDl)	291,8	401,2	226,0	46,3	E11122FML5	**300**	
18	6-5/8	177,9	198,6	98,4	9,4	E1165F5	**150**	
19	9-5/8	196,9	288,2	120,7	19,0	E1195F6	**200**	
20	6 (4RD)	215,1	212,2	158,1	13,4	E1164FM6	**150**	
21	8 (2RDs)	190,1	280,0	131,7	18,5	E1182FMS6	**200**	**6,9**
22	10 (2RDs)	220,1	350,2	159,0	32,8	E11102FMS6	**250**	
23	10 (2RDl)	289,1	350,2	226,0	42,8	E11102FML6	**250**	
24	12 (2RDl)	291,8	415,6	226,0	60,0	E11122FML6	**300**	
25	2-3/8	136,6	81,3	65,1	1,5	E1123F8	**50**	
26	2-7/8	145,1	96,5	73,0	2,4	E1127F8	**60**	
27	3-1/2	149,3	117,2	79,4	3,3	E1131F8	**80**	
28	4-1/2	162,0	148,3	88,9	4,8	E1141F8	**100**	
29	6-5/8	177,9	206,8	98,4	11,3	E1165F8	**150**	
30	9-5/8	196,9	300,8	120,7	23,5	E1195F8	**200**	**8,6**
31	4 (4RD)	174,9	155,9	125,9	5,8	E1144FML8	**100**	
32	6 (4RD)	215,1	220,6	158,1	16,0	E1164FML8	**150**	
33	8 (2RDl)	286,4	291,3	226,0	31,1	E1182FMSL8	**200**	
34	10 (2RDl)	289,1	365,3	226,0	54,7	E11102FML8	**250**	
35	12 (2RDl)	291,8	434,2	226,0	74,1	E11122FML8	**300**	
36	9-5/8	196,9	307,3	120,7	25,9	E1195F10	**200**	**10,3**
37	2-3/8	136,6	88,9	65,1	2,4	E1123F13	**50**	
38	2-7/8	145,1	106,7	73,0	3,3	E1127F13	**60**	
39	3-1/2	149,3	129,5	79,4	4,7	E1131F13	**80**	
40	4-1/2	162,0	162,6	88,9	8,6	E1141F13	**100**	**13,8**
41	6-5/8	177,9	227,0	98,4	16,3	E1165F13	**150**	
42	9-5/8	196,9	330,2	120,7	34,8	E1195F13	**200**	

Table 6. Continuation.
11.25 ° branch

Seq. No.	Connection size, inch	A, mm	B, mm	X1, mm	Weight, kg	Article	DN, mm	Nominal pressure, MPa
43	2-3/8	136,6	96,5	65,1	3,1	E1123F17	**50**	
44	2-7/8	145,1	114,3	73,0	4,1	E1127F17	**60**	**17,2**
45	3-1/2	149,3	137,2	79,4	6,0	E1131F17	**80**	
46	4-1/2	162,0	173,5	88,9	10,8	E1141F17	**100**	
47	2-3/8	136,6	101,9	65,1	3,8	E1123F20	**50**	
48	2-7/8	145,1	121,9	73,0	5,0	E1127F20	**60**	**20,7**
49	3-1/2	149,3	147,3	79,4	7,4	E1131F20	**80**	
50	4-1/2	162,0	186,6	88,9	13,0	E1141F20	**100**	
51	2-3/8	136,6	114,3	65,1	5,4	E1123F24	**50**	
52	2-7/8	145,1	137,2	73,0	6,9	E1127F24	**60**	**24,1**
53	3-1/2	149,3	164,0	79,4	11,8	E1131F24	**80**	
54	4-1/2	162,0	208,2	88,9	18,0	E1141F24	**100**	

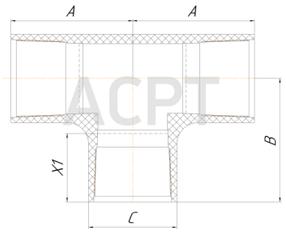


Table 7.
Straight tee

Seq. No.	Connection size, inch	A, мм	B, мм	C, мм	X1, мм	Weight, kg	Article	DN, mm	Nominal pressure, MPa
1	6-5/8	225,5	244,6	190,0	98,4	10,5	T65F4	**150**	
2	9-5/8	276,3	295,4	280,0	120,7	25,4	T95F4	**200**	
3	6 (4RD)	283,1	287,3	205,2	158,1	17,8	T64FML4	**150**	
4	8 (2RDs)	269,7	283,7	270,0	131,7	25,5	T82FMS4	**200**	**4,0**
5	10 (2RDs)	332,5	337,5	337,0	159,0	57,9	T102FMS4	**250**	
6	10 (2RDl)	401,5	406,5	337,0	226,0	62,8	T102FML4	**250**	
7	12 (2RDl)	429,0	434,0	396,0	226,0	88,2	T122FML4	**300**	

Table 7. Continuation.
Straight tee

Seq. No.	Connection size, inch	A, mm	B, mm	C, mm	X1, mm	Weight, kg	Article	DN, mm	Nominal pressure, MPa
8	2-7/8	156,0	174,7	96,0	73,0	3,1	T27F5	**60**	
9	3-1/2	174,7	193,8	118,0	79,4	5,0	T31F5	**80**	
10	4-1/2	200,1	219,2	146,2	98,4	7,5	T41F5	**100**	
11	6-5/8	225,5	244,6	195,6	98,4	12,8	T65F5	**150**	
12	9-5/8	276,3	295,4	289,4	120,7	32,8	T95F5	**200**	**5,5**
13	6 (4RD)	283,1	287,3	208,2	158,1	19,1	T64FML5	**150**	
14	8 (2RDs)	269,7	283,7	276,4	131,7	32,5	T82FMS5	**200**	
15	10 (2RDs)	332,5	337,5	350,2	159,0	65,8	T102FMS5	**250**	
16	10 (2RDl)	401,5	406,5	350,2	226,0	77,0	T102FML5	**250**	
17	12 (2RDl)	429,0	434,0	408,8	226,0	101,0	T122FML5	**300**	
18	4-1/2	200,1	219,2	152,4	88,9	9,5	T41F6	**100**	
19	6-5/8	225,5	244,6	203,2	98,4	15,4	T65F6	**150**	
20	9-5/8	276,3	295,4	297,6	120,7	39,0	T95F6	**200**	
21	6 (4RD)	283,1	287,3	216,1	158,1	23,6	T64FML6	**150**	**6,9**
22	8 (2RDs)	269,7	283,7	285,4	131,7	43,7	T82FMS6	**200**	
23	10 (2RDs)	332,5	337,5	363,2	159,0	79,8	T102FMS6	**250**	
24	10 (2RDl)	401,5	406,5	363,2	226,0	91,4	T102FML6	**250**	
25	12 (2RDl)	429,0	434,0	420,7	226,0	116,6	T122FML6	**300**	
26	2-3/8	143,0	155,7	83,8	65,1	2,8	T23F8	**50**	
27	2-7/8	156,0	174,7	99,1	73,0	3,7	T27F8	**60**	
28	3-1/2	174,7	193,8	121,9	79,4	6,3	T31F8	**80**	
29	6-5/8	225,5	244,6	213,4	98,4	20,0	T65F8	**150**	
30	9-5/8	276,3	295,4	309,6	120,7	47,5	T95F8	**200**	
31	4 (4RD)	204,4	229,5	161,8	125,9	17,6	T44FML8	**100**	**8,6**
32	6 (4RD)	283,1	287,3	226,0	158,1	28,0	T64FML8	**150**	
33	8 (2RDl)	366,0	380,0	298,7	226,0	68,5	T82FML8	**200**	
34	10 (2RDl)	401,5	406,5	378,4	226,0	120,2	T102FML8	**250**	
35	12 (2RDl)	429,0	434,0	441,9	226,0	139,2	T122FML8	**300**	
36	6-5/8	225,5	244,6	221,5	98,4	23,6	T65F10	**150**	
37	9-5/8	276,3	295,4	322,6	120,7	59,2	T95F10	**200**	**10,3**
38	2-3/8	143,0	155,7	94,0	65,1	4,1	T23F13	**50**	
39	2-7/8	156,0	174,7	111,8	73,0	5,4	T27F13	**60**	
40	3-1/2	174,7	193,8	137,2	79,4	8,9	T31F13	**80**	
41	4-1/2	200,1	219,2	172,7	88,9	15,2	T41F13	**100**	**13,8**
42	6-5/8	225,5	244,6	241,3	98,4	33,7	T65F13	**150**	
43	9-5/8	276,3	295,4	348,0	120,7	79,0	T95F13	**200**	

Table 7. Continuation.
Straight tee

Seq. No.	Connection size, inch	A, mm	B, mm	C, mm	X1, mm	Weight, kg	Article	DN, mm	Nominal pressure, MPa
44	2-3/8	143,0	155,7	102,8	65,1	5,4	T23F17	**50**	
45	2-7/8	156,0	174,7	122,2	73,0	7,5	T27F17	**60**	**17,2**
46	3-1/2	174,7	193,8	149,9	79,4	12,2	T31F17	**80**	
47	4-1/2	200,1	219,2	188,3	88,9	19,4	T41F17	**100**	
48	2-3/8	143,01	155,7	106,7	65,1	5,9	T23F20	**50**	
49	2-7/8	56,0	174,7	132,1	73,0	9,5	T27F20	**60**	**20,7**
50	3-1/2	174,7	193,8	160,0	79,4	15,1	T31F20	**80**	
51	4-1/2	200,1	219,2	200,7	88,9	28,8	T41F20	**100**	
52	2-3/8	143,0	155,7	126,5	65,1	8,9	T23F24	**50**	
53	2-7/8	156,0	174,7	150,6	73,0	12,7	T27F24	**60**	**24,1**
54	3-1/2	174,7	193,8	182,9	79,4	20,7	T31F24	**80**	
55	4-1/2	200,1	219,2	231,3	88,9	36,8	T41F24	**100**	

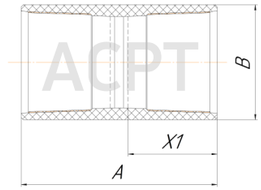


Table 8.
Coupling

Seq. No.	Connection size, inch	A, mm	B, mm	X1, mm	Weight, kg	Article	DN, mm	Nominal pressure, MPa
1	6-5/8	241,4	186,0	98,4	3,8	C65F4	**150**	
2	9-5/8	286,0	270,0	120,7	8,5	C95F4	**200**	
3	4 (4RD)	285,8	155,9	125,9	4,5	C44FML4	**100**	
4	6 (4RD)	350,2	198,0	158,1	5,6	C64FML4	**150**	**4,0**
5	8 (2RDs)	294,4	264,4	131,7	10,7	C82FMS4	**200**	
6	10 (2RDs)	334,0	330,0	159,0	17,2	C102FMS4	**250**	
7	10 (2RDl)	488,0	330,0	226,0	23,9	C102FML4	**250**	
8	12 (2RDl)	488,0	392,0	226,0	31,5	C122FML4	**300**	

Table 8. Continuation.
Coupling

Seq. No.	Connection size, inch	A, mm	B, mm	X1, mm	Weight, kg	Article	DN, mm	Nominal pressure, MPa
9	2-7/8	190,6	94,0	73,0	1,1	C27F5	**60**	5,5
10	3-1/2	203,2	111,0	79,4	1,2	C31F5	**80**	
11	4-1/2	222,6	141,0	88,9	2,1	C41F5	**100**	
12	6-5/8	241,4	191,8	98,4	4,9	C65F5	**150**	
13	9-5/8	286,0	279,9	120,7	11,0	C95F5	**200**	
14	4 (4RD)	285,8	155,9	125,9	4,5	C44FML5	**100**	
15	6 (4RD)	350,2	204,9	158,1	7,9	C64FML5	**150**	
16	8 (2RDs)	294,4	270,4	131,7	11,1	C82FMS5	**200**	
17	10 (2RDs)	334,0	337,8	159,0	19,5	C102FMS5	**250**	
18	10 (2RDl)	488,0	337,8	226,0	27,9	C102FML5	**250**	
19	12 (2RDl)	488,0	401,2	226,0	38,2	C122FML5	**300**	
20	6-5/8	241,4	198,6	98,4	5,9	C65F6	**150**	6,9
21	9-5/8	286,0	288,2	120,7	12,9	C95F6	**200**	
22	4 (4RD)	285,8	155,9	125,9	4,5	C44FML6	**100**	
23	6 (4RD)	350,2	212,2	158,1	9,5	C64FML6	**150**	
24	8 (2RDs)	294,4	280,0	131,7	12,3	C82FMS6	**200**	
25	10 (2RDs)	334,0	350,2	159,0	24,6	C102FMS6	**250**	
26	10 (2RDl)	488,0	350,2	226,0	34,5	C102FML6	**250**	
27	12 (2RDl)	488,0	415,6	226,0	49,8	C122FML6	**300**	
28	2-3/8	174,8	81,3	65,1	0,8	C23F8	**50**	8,6
29	2-7/8	190,6	96,5	73,0	1,4	C27F8	**60**	
30	3-1/2	203,2	117,2	79,4	2,1	C31F8	**80**	
31	4-1/2	222,6	148,3	88,9	2,8	C41F8	**100**	
32	6-5/8	241,4	206,8	98,4	6,8	C65F8	**150**	
33	9-5/8	286,0	300,8	120,7	15,9	C95F8	**200**	
34	4 (4RD)	285,8	155,9	125,9	4,2	C44FML8	**100**	
35	6 (4RD)	350,2	220,6	158,1	11,4	C64FML8	**150**	
36	8 (2RDl)	488,0	291,3	226,0	26,4	C82FML8	**200**	
37	10 (2RDl)	488,0	365,3	226,0	43,1	C102FML8	**250**	
38	12 (2RDl)	488,0	434,2	226,0	61,9	C122FML8	**300**	
39	6-5/8	241,4	218,4	98,4	9,0	C65F10	**150**	10,3
40	9-5/8	286,0	312,8	120,7	19,2	C95F10	**200**	
41	2-3/8	174,8	91,8	65,1	1,2	C23F13	**50**	13,8
42	2-7/8	190,6	109,5	73,0	2,3	C27F13	**60**	
43	3-1/2	203,2	132,8	79,4	3,1	C31F13	**80**	
44	4-1/2	222,6	170,2	88,9	4,8	C41F13	**100**	
45	6-5/8	241,4	234,3	98,4	11,6	C65F13	**150**	
46	9-5/8	286,0	340,3	120,7	25,7	C95F13	**200**	

Table 8. Continuation.
Coupling

Seq. No.	Connection size, inch	A, mm	B, mm	X1, mm	Weight, kg	Article	DN, mm	Nominal pressure, MPa
47	2-3/8	174,8	99,1	65,1	1,5	C23F17	**50**	17,2
48	2-7/8	190,6	116,8	73,0	2,8	C27F17	**60**	
49	3-1/2	203,2	142,2	79,4	4,0	C31F17	**80**	
50	4-1/2	222,6	182,9	88,9	6,8	C41F17	**100**	
51	2-3/8	174,8	106,7	65,1	2,0	C23F20	**50**	20,7
52	2-7/8	190,6	127,0	73,0	3,5	C27F20	**60**	
53	3-1/2	203,2	152,4	79,4	4,9	C31F20	**80**	
54	4-1/2	222,6	195,6	88,9	8,0	C41F20	**100**	
55	2-7/8	190,6	148,4	73,0	5,2	C27F24	**60**	24,1
56	4-1/2	222,6	228,0	88,9	12,3	C41F24	**100**	
57	2-3/8	174,8	124,5	65,1	3,1	C23F27	**50**	27
58	3-1/2	203,2	179,9	79,4	7,9	C31F27	**80**	

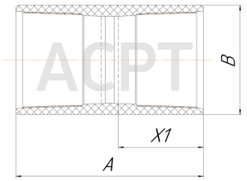


Table 9.
Oil-well, core-shell coupling

Seq. No.	Connection size, inch	A, mm	B, mm	X1, mm	Weight, kg	Article	DN, mm	Nominal pressure, MPa
1	6-5/8	241,4	186,7	98,4	3,0	CD65F5	**150**	5,5
2	9-5/8	286,0	271,8	120,7	7,0	CD95F5	**200**	
3	6-5/8	241,4	191,8	98,4	3,5	CD65F6	**150**	6,9
4	9-5/8	286,0	276,9	120,7	8,1	CD95F6	**200**	
5	6-5/8	241,4	195,6	98,4	4,0	CD65F8	**150**	8,6
6	9-5/8	286,0	281,9	120,7	9,3	CD95F8	**200**	
7	2-3/8	225,6	82,6	90,5	1,0	CD23F10	**50**	10,3
8	2-7/8	241,4	96,5	98,0	1,3	CD27F10	**60**	
9	3-1/2	203,2	116,8	79,4	2,0	CD31F10	**80**	
10	4-1/2	222,6	147,3	88,9	2,8	CD41F10	**100**	
11	6-5/8	241,4	200,7	98,4	4,7	CD65F10	**150**	
12	9-5/8	286,0	292,1	120,7	11,6	CD95F10	**200**	

Table 9. Continuation.
Oil-well, core-shell coupling

Seq. No.	Connection size, inch	A, mm	B, mm	X1, mm	Weight, kg	Article	DN, mm	Nominal pressure, MPa
13	2-3/8	225,6	86,4	90,5	1,2	CD23F13	**50**	**13,8**
14	2-7/8	241,4	101,6	98,0	1,7	CD27F13	**60**	
15	3-1/2	203,2	121,9	79,4	2,5	CD31F13	**80**	
16	4-1/2	222,6	154,9	88,9	3,6	CD41F13	**100**	
17	6-5/8	241,4	209,6	98,4	6,0	CD65F13	**150**	
18	9-5/8	286,0	302,3	120,7	14,4	CD95F13	**200**	
19	2-3/8	225,6	91,4	90,5	1,5	CD23F17	**50**	**17,2**
20	2-7/8	241,4	106,7	98,0	2,2	CD27F17	**60**	
21	3-1/2	203,2	129,5	79,4	3,2	CD31F17	**80**	
22	4-1/2	222,6	162,6	88,9	4,5	CD41F17	**100**	
23	2-3/8	225,6	94,0	90,5	1,7	CD23F20	**50**	**20,7**
24	2-7/8	241,4	111,8	98,0	2,5	CD27F20	**60**	
25	3-1/2	203,2	133,4	79,4	3,6	CD31F20	**80**	
26	2-3/8	225,6	99,1	90,5	2,0	CD23F24	**50**	**24,1**
27	2-7/8	241,4	116,8	98,0	2,9	CD27F24	**60**	
28	4-1/2	222,6	177,8	88,9	6,2	CD41F24	**100**	
29	2-3/8	225,6	104,1	90,5	2,4	CD23F27	**50**	**27,6**
30	3-1/2	203,2	146,1	79,4	4,8	CD31F27	**80**	

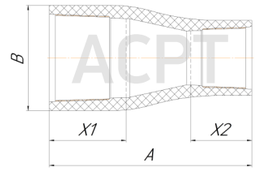


Table 10.
Adapter coupling

Seq. No.	Connection size, inch	A, mm	B, mm	X1, mm	X2, mm	Weight, kg	Article	DN, mm	Nominal pressure, MPa
1	2-7/8 x 2-3/8	212,7	133,4	73,0	65,1	3,4	CA27F23F24	**60x50**	**24,1**
2	3-1/2 x 2-3/8	254,0	152,4	79,4	65,1	4,7	CA31F23F24	**80x50**	
3	3-1/2 x 2-7/8	234,9	152,4	79,4	73,0	4,5	CA31F27F24	**80x60**	
4	4-1/2 x 2-3/8	319,7	193,4	88,9	65,1	9,1	CA41F23F24	**100x50**	
5	4-1/2 x 2-7/8	299,6	193,4	88,9	73,0	8,9	CA41F27F24	**100x60**	
6	4-1/2 x 3-1/2	269,9	193,4	88,9	79,4	8,3	CA41F31F24	**100x80**	
7	6-5/8 x 3-1/2	382,3	215,9	98,4	79,4	8,7	CA65F31F13	**150x80**	**13,8**
8	6-5/8 x 4-1/2	336,0	215,9	98,4	88,9	8,2	CA65F41F13	**150x100**	
9	8-5/8-6-5/8	365,7	309,9	114,3	98,4	33,6	CA85F65F13	**190x150**	
10	9-5/8 x 4-1/2	529,3	309,9	130,3	88,9	22,9	CA95F41F13	**200x100**	
11	9-5/8 x 6-5/8	434,7	309,9	130,3	98,4	20,3	CA95F65F10	**200x150**	**10,3**
12	9-5/8 x 8-5/8	321,7	309,9	130,3	114,3	21,9	CA95F85F10	**200x190**	

Table 10. Continuation.
Adapter coupling

Seq. No.	Connection size, inch	A, mm	B, mm	X1, mm	X2, mm	Weight, kg	Article	DN, mm	Nominal pressure, MPa
13	4(4RD) x2-3/8	345,3	156,2	125,9	65,1	3,8	CA44FML23F8	**100x50**	**8,6**
14	4(4RD) x2-7/8	325,2	156,2	125,9	82,6	3,7	CA44FML27F8	**100x60**	
15	4(4RD) x3-1/2	294,5	156,2	125,9	79,4	3,5	CA44FML31F8	**100x80**	
16	6(4RD) x3-1/2	442,7	218,3	158,1	79,4	8,9	CA64FML31F8	**150x80**	
17	6(4RD) x4-1/2	396,4	218,3	158,1	88,9	8,4	CA64FML41F8	**150x100**	
18	6(4RD) x 4(4RD)	420,0	218,3	158,1	125,9	10,0	CA64FML44FML8	**150 x 100**	
19	8(2RDl) x4-1/2	577,3	287,8	226,0	88,9	20,7	CA82FML41F8	**200 x 100**	
20	8(2RDl) x 4(4RD)	629,9	287,8	226,0	125,9	23,9	CA82FML44FML8	**200 x 100**	
21	8(2RDl) x 6-5/8	483,7	287,8	226,0	98,4	18,4	CA82FML65F8	**200 x 150**	
22	10(2RDl) x 6-5/8	602,7	350,5	226,0	98,4	31,1	CA102FML65F8	**250 x 150**	
23	10(2RDl) x 6(4RD)	681,1	350,5	226,0	158,1	37,6	CA102FML64FML8	**250 x 150**	
24	10(2RDl) x 9-5/8	455,0	350,5	226,0	130,3	25,4	CA102FML95F8	**250 x 200**	
25	10(2RDl) x 8(2RDl)	592,0	350,5	226,0	226,0	32,5	CA102FML82FML8	**250 x 200**	
26	12(2RD) x 9-5/8	579,0	406,4	226,0	130,3	37,1	CA122FML95F8	**300 x 200**	
27	12(2RD) x 8(2RDl)	716,0	406,4	226,0	226,0	44,4	CA122FML82FML8	**300 x 200**	
28	12(2RD) x 10(2RDl)	597,0	406,4	226,0	226,0	39,2	CA122FML102FML8	**300 x 250**	
29	8(2RDs) x4-1/2	483,0	285,8	131,7	88,9	19,7	CA82FMS41F6	**200 x 100**	**6,9**
30	8(2RDs) x 4(4RD)	533,6	285,8	131,7	125,9	19,0	CA82FMS44FML6	**200 x 100**	
31	8(2RDs) x 6-5/8	389,4	285,8	131,7	98,4	17,4	CA82FMS65F6	**200 x 150**	
32	8(2RDs) x 6(4RD)	418,8	285,8	131,7	158,1	17,0	CA82FMS64FML6	**200 x 150**	
33	10(2RDs) x 8(2RDs)	426,7	350,5	159,0	131,7	28,5	CA102FMS82FMS6	**250 x 200**	
34	12(2RD) x 8(2RDs)	716,0	406,4	226,0	131,7	43,0	CA122FM82FMS6	**300 x 200**	
35	12(2RD) x 10(2RDs)	528,0	406,4	226,0	159,0	45,9	CA122FM102FMS6	**300 x 250**	

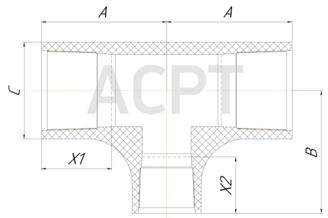


Table 11.
Reducing tee

Seq. No.	Connection size, inch	A, mm	B, mm	C, mm	X1, mm	X2, mm	Weight, kg	Article	DN, mm	Nominal pressure, MPa
1	2-7/8 x 2-3/8	156,0	154,2	150,6	73,0	65,1	27,1	TA27F23F24	**60 x 50**	
2	3-1/2 x 2-3/8	174,7	174,8	182,9	79,4	65,1	29,8	TA31F23F24	**80 x 50**	
3	3-1/2 x 2-7/8	174,7	176,6	182,9	79,4	73,0	32,7	A31F27F24	**80 x 60**	
4	4-1/2 x 2-3/8	200,1	202,9	231,3	88,9	65,1	38,6	TA41F23F24	**100 x 50**	**24,1**
5	4-1/2 x 2-7/8	200,1	204,7	231,3	88,9	73,0	39,0	TA41F27F24	**100 x 60**	
6	4-1/2 x 3-1/2	200,1	202,8	231,3	88,9	79,4	39,4	TA41F31F24	**100 x 80**	
7	6-5/8 x 3-1/2	225,5	241,7	241,3	98,4	79,4	32,0	TA65F31F13	**150 x 80**	
8	6-5/8 x 4-1/2	225,5	239,0	241,3	98,4	88,9	32,4	TA65F41F13	**150 x 100**	**13,8**
9	9-5/8 x 4-1/2	276,3	305,2	348,0	120,7	88,9	38,1	TA95F41F13	**200 x 100**	
10	9-5/8 x 6-5/8	276,3	291,8	348,0	120,7	98,4	39,8	TA95F65F10	**200 x 150**	**10,3**
11	4(4RD) x2-3/8	204,4	184,0	161,8	125,9	65,1	12,4	TA44FML23F8	**100 x 50**	
12	4(4RD) x2-7/8	204,4	185,8	161,8	125,9	73,0	12,6	TA44FML27F8	**100 x 60**	
13	4(4RD) x3-1/2	204,4	184,0	161,8	125,9	79,4	12,9	TA44FML31F8	**100 x 80**	
14	6(4RD) x3-1/2	283,1	256,1	226,0	158,1	79,4	27,8	TA64FML31F8	**150 x 80**	
15	6(4RD) x4-1/2	283,1	253,4	226,0	158,1	88,9	29,3	TA64FML41F8	**150 x 100**	
16	6(4RD) x 4(4RD)			226,0	158,1	79,4		TA64FML44FML8	**150 x 100**	
17	8(2RDl) x4-1/2	366,0	292,2	298,7	226,0	88,9	32,8	TA82FML41F8	**200 x 100**	
18	8(2RDl) x 4(4RD)			298,7	226,0	125,9		TA82FML44FML8	**200 x 100**	
19	8(2RDl) x 6-5/8	366,0	278,7	298,7	226,0	98,4	35,6	TA82FML65F8	**200 x 150**	**8,6**
20	8(2RDl) x 6(4RD)			298,7	226,0	158,1		TA82FML64FML8	**200 x 150**	
21	10(2RDl) x 6-5/8	401,5	340,7	378,4	226,0	98,4	57,9	TA102FML65F8	**250 x 150**	
22	10(2RDl) x 6(4RD)			378,4	226,0	158,1		TA102FML64FML8	**250 x 150**	
23	10(2RDl) x 9-5/8	401,5	325,3	378,4	226,0	120,7	83,1	TA102FML95F8	**250 x 200**	
24	10(2RDl) x 8(2RDl)	401,5	428,0	378,4	226,0	226,0	78,4	TA102FML82FML8	**250 x 200**	
25	12(2RDl) x 9-5/8	429,0	380,3	441,9	226,0	120,7	114,3	TA122FML95F8	**300 x 200**	
26	12(2RDl) x 8(2RDl)	429,0	434,0	441,9	226,0	226,0	110,2	TA122FML82FML8	**300 x 200**	
27	12(2RDl) x 10(2RDl)	429,0	434,0	441,9	226,0	226,0	123,4	TA122FML102FML8	**300 x 250**	
28	8(2RDs) x4-1/2	269,7	292,2	285,4	131,7	88,9	29,5	TA82FMS41F6	**200 x 100**	
29	8(2RDs) x 4(4RD)			285,4/161,8	131,7	125,9		TA82FMS44FML6	**200 x 100**	
30	8(2RDs) x 6-5/8	269,7	278,7	285,4	131,7	98,4	30,6	TA82FMS65F6	**200 x 150**	
31	8(2RDs) x 6(4RD)			285,4/226,0	131,7	158,1		TA82FMS64FML6	**200 x 150**	**6,9**
32	10(2RDs) x 8(2RDs)	332,5	331,7	363,2	159,0	131,7	71,4	TA102FMS82FMS6	**250 x 200**	
33	12(2RDl) x 8(2RDs)	429,0	337,7	420,7	226,0	131,7	102,2	TA122FML82FMS6	**300 x 200**	
34	12(2RDl) x 10(2RDs)	429,0	337,7	420,7	226,0	159,0	104,6	TA122FML102FMS6	**300 x 250**	

Table 12.
Nipple-nipple nozzle

Connection size, inch	Nozzle size, mm							
	300	450	600	900	1200	1800	2400	3000
8RD connection								
2⅜	■	■	■	■	■	■	■	■
2⅞	■	■	■	■	■	■	■	■
3½	■	■	■	■	■	■	■	■
4½	■	■	■	■	■	■	■	■
5½		■	■	■	■	■	■	■
6⅝		■	■	■	■	■	■	■
7		■	■	■	■	■	■	■
9⅝		■	■	■	■	■	■	■
2-4RD + O-ring connection								
4		■	■	■	■	■	■	■
6		■	■	■	■	■	■	■
8			■	■	■	■	■	■
10			■	■	■	■	■	■
12			■	■	■	■	■	■

Table13.
Socket-nipple nozzle

Connection size, inch	Nozzle size, mm							
	350	500	650	900	1200	1800	2400	3000
8RD connection								
2⅜	■	■	■	■	■	■	■	■
2⅞	■	■	■	■	■	■	■	■
3½	■	■	■	■	■	■	■	■
4½	■	■	■	■	■	■	■	■
5½		■	■	■	■	■	■	■
6⅝		■	■	■	■	■	■	■
7		■	■	■	■	■	■	■
9⅝		■	■	■	■	■	■	■
2-4RD + O-ring connection								
4		■	■	■	■	■	■	■
6		■	■	■	■	■	■	■
8			■	■	■	■	■	■
10			■	■	■	■	■	■
12			■	■	■	■	■	■

Note: in agreement with the consumer, the nipple length may differ from the nominal values. Art. designation example:
Nipple-nipple nozzle L31FK8AN76NMM [Pipe art. No.] [NMM] [Nipple length, mm]
Socket-nipple nozzle - L31FK8AN76NFM [Pipe art. No.] [NFM] [Nipple length, mm]

■ - allowable sizes

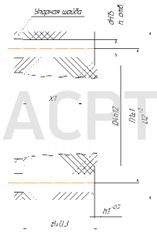


Table 14.
ANSI B16.5 Flange

Connection size	OD (D +2 mm), mm	Width (B ±0.3mm), mm	Mounting holes C/C distance (D1 ±1mm), mm	Length of thread loss when screwed with a nipple (X1), mm	Mounting holes q-ty (n), mm	Mounting holes dia. (d H15), mm	Ridge diameter (D4 h12), mm	Ridge height (h1 +0,5 mm), mm	Art. No.	Product weight, kg
ANSI 150										
2-3/8	152	87,4	120,7	65,1	4	19,1	91,9	1,5	TFL23FLA150-RF	2,43
2-7/8	177,8	95,3	139,7	73,0	4	19,1	104,6	1,5	FL27FLA150-RF	3,66
3-1/2	190,5	101,6	152,4	79,4	4	19,1	127	1,5	FL31FLA150-RF	4,23
4-1/2	228,6	111,3	190,5	88,9	8	19,1	157,2	1,5	FL41FLA150-RF	6,27
6-5/8	279,4	120,7	241,3	98,4	8	22,2	215,9	1,5	FL65FLA150-RF	8,99
9-5/8	342,9	143,0	298,5	120,7	8	22,2	269,7	1,5	FL95FLA150-RF	12,76
4 (4RD)	228,6	134,9	190,5	125,9	8	19,1	157,2	1,5	FL44FLMA150-RF	7,37
6 (4RD)	279,4	167,1	241,3	158,0	8	22,2	215,9	1,5	FL64FLMA150-RF	11,71
8 (2RDs)	342,9	139,7	298,5	131,7	8	22,2	269,7	1,5	FL82FSMA150-RF	4,15
10(2RDs)	406,4	167,0	362,0	159,0	12	25,4	323,8	1,5	FL102FSMA150-RF	21,09
10(2RDl)	406,4	236,0	362,0	226,0	12	25,4	323,8	1,5	FL102FLMA150-RF	29,4
12(2RDl)	482,6	236,0	431,8	226,0	12	25,4	381	1,5	FL122FLMA150-RF	41,98
ANSI 300										
4-1/2	254	111,3	200	88,9	8	22,2	157,2	1,5	FL41FLA300-RF	8,22
6-5/8	317,5	120,7	269,9	98,4	12	22,2	215,9	1,5	FL65FLA300-RF	12,88
9-5/8	381	143	330,2	120,7	12	25,4	269,7	1,5	FL95FLA300-RF	18,05
4 (4RD)	254	134,9	200	125,9	8	22,2	157,2	1,5	FL44FLMA300-RF	9,73
6 (4RD)	317,5	167,1	269,9	158	8	22,2	215,9	1,5	FL64FLMA300-RF	17,62
8 (2RDs)	381	139,7	330,2	131,7	12	25,4	269,7	1,5	FL82FSMA300-RF	19,31
10(2RDs)	444,5	167	387,4	159	16	28,6	323,8	1,5	FL102FSMA300-RF	28,12
10(2RDl)	444,5	236	387,4	226	16	28,6	323,8	1,5	FL102FLMA300-RF	39,38
12(2RDl)	520,7	236	450,9	226	16	31,8	381	1,5	FL122FLMA300-RF	52,93
ANSI 300/600										
2-3/8	165,1	87,4	127	65,1	8	19,1	91,9	1,5	FL23FLA300/600-RF	2,8
2-7/8	190,5	95,3	149,2	73	8	22,2	104,6	1,5	FL27FLA300/600-RF	4,14
3-1/2	209,6	101,6	168,3	79,4	8	22,2	127	1,5	FL31FLA300/600-RF	5,05

Table 14. Continuation.
ANSI B16.5 Flange

Connection size	OD (D +2mm), mm	Width (B ±0.3mm), mm	Mounting holes C/C distance (D1 ±1mm), mm	Length of thread loss when screwed with a nipple (X1), mm	Mounting holes q-ty (n), mm	Mounting holes dia. (d H15), mm	Ridge diameter (D4 h12), mm	Ridge height (h1 +0,5 mm), mm	Art. No.	Product weight, kg
ANSI 600										
4-1/2	273,1	111,3	215,9	88,9	8	25,4	157,2	6,3	FL41FLA600-RF	9,39
6-5/8	355,6	120,7	292,1	98,4	12	28,6	215,9	6,3	FL65FLA600-RF	16,43
9-5/8	419,1	143	349,3	120,7	12	31,8	269,7	6,3	FL95FLA600-RF	23,17
4 (4RD)	273,1	134,9	215,9	125,9	8	25,4	157,2	6,3	FL44FLMA600-RF	11,25
6 (4RD)	355,6	167,1	292,1	158	12	28,6	215,9	6,3	FL64FLMA600-RF	22,23
8 (2RDl)	419,1	236	349,3	226	12	31,8	269,7	6,3	FL82FLMA600-RF	41,2
10(2RDl)	508	236	431,8	226	16	34,9	323,8	6,3	FL102FLMA600-RF	58,3
12(2RDl)	558,8	236	489	226	20	34,9	381	6,3	FL122FLMA600-RF	64
ANSI 900										
3-1/2	241,3	101,6	190,5	79,4	8	25,4	127	6,3	FL31FLA900-RF	6,82
4-1/2	292,1	111,3	235	88,9	8	31,8	157,2	6,3	FL41FLA900-RF	10,68
6-5/8*	381	120,7	317,5	98,4	12	31,8	215,9	6,3	FL65FLA900-RF	19,38
9-5/8*	469,9	143	393,7	120,7	12	38,1	269,7	6,3	FL95FLA900-RF	31,73
ANSI 900/1500										
2-3/8	215,9	87,4	165,1	65,1	4	25,4	91,9	6,3	FL23FLA900/1500-RF	5,2
2-7/8	244,5	95,3	190,5	73	8	28,6	104,6	6,3	FL27FLA900/1500-RF	6,75
ANSI 1500										
3-1/2	266,7	101,6	203,2	79,4	8	31,8	127	6,3	FL31FLA1500-RF	8,31
4-1/2	311,2	111,3	241,3	88,9	8	34,9	157,2	6,3	FL41FLA1500-RF	12,31
6-5/8*	393,7	120,7	317	98,4	12	38,1	215,9	6,3	FL65FLA1500-RF	20,2
9-5/8*	482,6	143	393,7	120,7	12	44,5	269,7	6,3	FL95FLA1500-RF	32,97

Stud diameter, mm	Torque			
	Class 2		Class 5	
	N/m	kg/m	N/m	kg/m
15,9	73	7,4	120	12,1
19,1	130	13,1	216	21,8
22,2	210	21,1	349	35,2
25,4	311	31,4	523	52,8
28,6	439	44,3	737	74,4
31,8	623	64,5	1052	106,2
34,9	806	81,4	1363	137,1
38,1	1077	108,7	1826	184,4

Table 14. Continuation.
ANSI B16.5 Flange

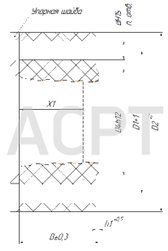
Art. No.	N-holes q-ty.	Hole dia. (d), mm	Length ,mm	Stud GOST 9066-75	Washer GOST 9065-75	Nut GOST 9064-75	Gasket
ANSI 150							
FL23FLA150-RF	4	19,1	160**	AM16-6g 160.40.ЗП182.IV.2	Washer 16.20.III.4.029	AM16-6H.35.III.026	Б-50-16-Ф-ГОСТ 15180-86
			240***	AM16-6g 240.40.ЗП182.IV.2	Washer 16.20.III.4.029	AM16-6H.35.III.026	Б-50-16-Ф-ГОСТ 15180-86
FL27FLA150-RF	4	19,1	170**	AM16-6g 170.40.ЗП182.IV.2	Washer 16.20.III.4.029	AM16-6H.35.III.026	Б-60-16-Ф-ГОСТ 15180-86
			250***	AM16-6g 250.40.ЗП182.IV.2	Washer 16.20.III.4.029	AM16-6H.35.III.026	Б-60-16-Ф-ГОСТ 15180-86
FL31FLA150-RF	4	19,1	180**	AM16-6g 180.40.ЗП182.IV.2	Washer 16.20.III.4.029	AM16-6H.35.III.026	Б-80-16-Ф-ГОСТ 15180-86
			260***	AM16-6g 260.40.ЗП182.IV.2	Washer 16.20.III.4.029	AM16-6H.35.III.026	Б-80-16-Ф-ГОСТ 15180-86
FL41FLA150-RF	8	19,1	190**	AM16-6g 190.40.ЗП182.IV.2	Washer 16.20.III.4.029	AM16-6H.35.III.026	Б-100-16-Ф-ГОСТ 15180-86
			280***	AM16-6g 280.40.ЗП182.IV.2	Washer 16.20.III.4.029	AM16-6H.35.III.026	Б-100-16-Ф-ГОСТ 15180-86
FL65FLA150-RF	8	22,2	210**	AM20-6g 210.48.ЗП182.IV.2	Washer 20.20.III.4.029	AM20-6H.35.III.026	Б-150-16-Ф-ГОСТ 15180-86
			310***	AM20-6g 310.48.ЗП182.IV.2	Washer 20.20.III.4.029	AM20-6H.35.III.026	Б-150-16-Ф-ГОСТ 15180-86
FL95FLA150-RF	8	22,2	240**	AM20-6g 240.48.ЗП182.IV.2	Washer 20.20.III.4.029	AM20-6H.35.III.026	Б-200-16-Ф-ГОСТ 15180-86
			360***	AM20-6g 360.48.ЗП182.IV.2	Washer 20.20.III.4.029	AM20-6H.35.III.026	Б-200-16-Ф-ГОСТ 15180-86
FL44FLMA150-RF	8	19,1	220**	AM16-6g 220.40.ЗП182.IV.2	Washer 16.20.III.4.029	AM16-6H.35.III.026	Б-100-16-Ф-ГОСТ 15180-86
			330***	AM16-6g 330.40.ЗП182.IV.2	Washer 16.20.III.4.029	AM16-6H.35.III.026	Б-100-16-Ф-ГОСТ 15180-86
FL64FLMA150-RF	8	22,2	260**	AM20-6g 260.48.ЗП182.IV.2	Washer 20.20.III.4.029	AM20-6H.35.III.026	Б-150-16-Ф-ГОСТ 15180-86
			400***	AM20-6g 400.48.ЗП182.IV.2	Washer 20.20.III.4.029	AM20-6H.35.III.026	Б-150-16-Ф-ГОСТ 15180-86
FL82FSMA150-RF	8	22,2	330**	AM20-6g 300.48.ЗП182.IV.2	Washer 20.20.III.4.029	AM20-6H.35.III.026	Б-200-16-Ф-ГОСТ 15180-86
			540***	AM20-6g 540.48.ЗП182.IV.2	Washer 20.20.III.4.029	AM20-6H.35.III.026	Б-200-16-Ф-ГОСТ 15180-86
FL102FSMA150-RF	12	25,4	340**	AM24-6g 300.58.ЗП182.IV.2	Washer 24.20.III.4.029	AM24-6H.35.III.026	Б-250-16-Ф-ГОСТ 15180-86
			550***	AM24-6g 550.58.ЗП182.IV.2	Washer 24.20.III.4.029	AM24-6H.35.III.026	Б-250-16-Ф-ГОСТ 15180-86
FL102FLMA150-RF	12	25,4	340**	AM24-6g 300.58.ЗП182.IV.2	Washer 24.20.III.4.029	AM24-6H.35.III.026	Б-250-16-Ф-ГОСТ 15180-86
			550***	AM24-6g 550.58.ЗП182.IV.2	Washer 24.20.III.4.029	AM24-6H.35.III.026	Б-250-16-Ф-ГОСТ 15180-86
FL122FLMA150-RF	12	25,4	340**	AM24-6g 300.58.ЗП182.IV.2	Washer 24.20.III.4.029	AM24-6H.35.III.026	Б-300-16-Ф-ГОСТ 15180-86
			550***	AM24-6g 550.58.ЗП182.IV.2	Washer 24.20.III.4.029	AM24-6H.35.III.026	Б-300-16-Ф-ГОСТ 15180-86
ANSI 300							
FL41FLA300-RF	8	22,2	220**	AM20-6g 200.48.ЗП182.IV.2	Washer 20.20.III.4.029	AM20-6H.35.III.026	Б-100-16-Ф-ГОСТ 15180-86
			290***	AM20-6g 290.48.ЗП182.IV.2	Washer 20.20.III.4.029	AM20-6H.35.III.026	Б-100-16-Ф-ГОСТ 15180-86
FL65FLA300-RF	12	22,2	220**	AM24-6g 220.58.ЗП182.IV.2	Washer 24.20.III.4.029	AM24-6H.35.III.026	Б-150-16-Ф-ГОСТ 15180-86
			320***	AM24-6g 320.58.ЗП182.IV.2	Washer 24.20.III.4.029	AM24-6H.35.III.026	Б-150-16-Ф-ГОСТ 15180-86
FL95FLA300-RF	12	25,4	250**	AM24-6g 250.65.ЗП182.IV.2	Washer 24.20.III.4.029	AM24-6H.35.III.026	Б-200-16-Ф-ГОСТ 15180-86
			360***	AM24-6g 360.65.ЗП182.IV.2	Washer 24.20.III.4.029	AM24-6H.35.III.026	Б-200-16-Ф-ГОСТ 15180-86
FL44FLMA300-RF	8	22,2	220**	AM20-6g 220.48.ЗП182.IV.2	Washer 20.20.III.4.029	AM20-6H.35.III.026	Б-100-16-Ф-ГОСТ 15180-86
			330***	AM20-6g 330.48.ЗП182.IV.2	Washer 20.20.III.4.029	AM20-6H.35.III.026	Б-100-16-Ф-ГОСТ 15180-86
FL64FLMA300-RF	8	22,2	270**	AM24-6g 270.58.ЗП182.IV.2	Washer 24.20.III.4.029	AM24-6H.35.III.026	Б-150-16-Ф-ГОСТ 15180-86
			410***	AM24-6g 410.58.ЗП182.IV.2	Washer 24.20.III.4.029	AM24-6H.35.III.026	Б-150-16-Ф-ГОСТ 15180-86
FL82FSMA300-RF	12	25,4	340**	AM24-6g 310.58.ЗП182.IV.2	Washer 24.20.III.4.029	AM24-6H.35.III.026	Б-200-16-Ф-ГОСТ 15180-86
			550***	AM24-6g 550.58.ЗП182.IV.2	Washer 24.20.III.4.029	AM24-6H.35.III.026	Б-200-16-Ф-ГОСТ 15180-86
FL102FSMA300-RF	16	28,6	350**	AM27-6g 350.65.ЗП182.IV.2	Washer 27.20.III.4.029	AM27-6H.35.III.026	Б-250-16-Ф-ГОСТ 15180-86
			560***	AM27-6g 560.70.ЗП182.IV.2	Washer 27.20.III.4.029	AM27-6H.35.III.026	Б-250-16-Ф-ГОСТ 15180-86
FL102FLMA300-RF	16	28,6	350**	AM27-6g 350.70.ЗП182.IV.2	Washer 27.20.III.4.029	AM27-6H.35.III.026	Б-250-16-Ф-ГОСТ 15180-86
			560***	AM27-6g 560.70.ЗП182.IV.2	Washer 27.20.III.4.029	AM27-6H.35.III.026	Б-250-16-Ф-ГОСТ 15180-86
FL122FLMA300-RF	16	31,8	350**	AM30-6g 350.70.ЗП182.IV.2	Washer 30.20.III.4.029	AM30-6H.35.III.026	Б-300-16-Ф-ГОСТ 15180-86
			560***	AM30-6g 560.70.ЗП182.IV.2	Washer 30.20.III.4.029	AM30-6H.35.III.026	Б-300-16-Ф-ГОСТ 15180-86
ANSI 300/600							
FL23FLA300/600-RF	8	19,1	160**	AM16-6g 160.48.ЗП182.IV.2	Washer 16.20.III.4.029	AM16-6H.35.III.026	Б-50-16-Ф-ГОСТ 15180-86
			230***	AM16-6g 230.48.ЗП182.IV.2	Washer 16.20.III.4.029	AM16-6H.35.III.026	Б-50-16-Ф-ГОСТ 15180-86
FL27FLA300/600-RF	8	22,2	170**	AM20-6g 170.48.ЗП182.IV.2	Washer 20.20.III.4.029	AM20-6H.35.III.026	Б-60-16-Ф-ГОСТ 15180-86
			250***	AM20-6g 250.48.ЗП182.IV.2	Washer 20.20.III.4.029	AM20-6H.35.III.026	Б-60-16-Ф-ГОСТ 15180-86
FL31FLA300/600-RF	8	22,2	180**	AM20-6g 180.48.ЗП182.IV.2	Washer 20.20.III.4.029	AM20-6H.35.III.026	Б-80-16-Ф-ГОСТ 15180-86
			260***	AM20-6g 260.48.ЗП182.IV.2	Washer 20.20.III.4.029	AM20-6H.35.III.026	Б-80-16-Ф-ГОСТ 15180-86

Table 14. Continuation.
ANSI B16.5 Flange

Art. No.	N-holes q-ty.	Hole dia. (d),mm	Length ,mm	Stud GOST 9066-75	Washer GOST 9065-75	Nut GOST 9064-75	Gasket
ANSI 600							
FL41FLA600-RF	8	25,4	220**	AM24-6g 220.58.ЗП182.IV.2	Washer 24.20.III.4.029	AM24-6H.35.III.026	Б-100-16-Ф-ГОСТ 15180-86
			300***	AM24-6g 300.58.ЗП182.IV.2	Washer 24.20.III.4.029	AM24-6H.35.III.026	Б-100-16-Ф-ГОСТ 15180-86
FL65FLA600-RF	12	28,6	240**	AM27-6g 240.70.ЗП182.IV.2	Washer 27.20.III.4.029	AM27-6H.35.III.026	Б-150-16-Ф-ГОСТ 15180-86
			330**	AM27-6g 330.70.ЗП182.IV.2	Washer 27.20.III.4.029	AM27-6H.35.III.026	Б-150-16-Ф-ГОСТ 15180-86
FL95FLA600-RF	12	31,8	280**	AM30-6g 280.70.ЗП182.IV.2	Washer 30.20.III.4.029	AM30-6H.35.III.026	Б-200-16-Ф-ГОСТ 15180-86
			380***	AM30-6g 380.70.ЗП182.IV.2	Washer 30.20.III.4.029	AM30-6H.35.III.026	Б-200-16-Ф-ГОСТ 15180-86
FL44FLMA600-RF	8	25,4	230**	AM24-6g 230.58.ЗП182.IV.2	Washer 24.20.III.4.029	AM24-6H.35.III.026	Б-100-16-Ф-ГОСТ 15180-86
			330**	AM24-6g 330.58.ЗП182.IV.2	Washer 24.20.III.4.029	AM24-6H.35.III.026	Б-100-16-Ф-ГОСТ 15180-86
FL64FLMA600-RF	12	28,6	280**	AM27-6g 280.70.ЗП182.IV.2	Washer 27.20.III.4.029	AM27-6H.35.III.026	Б-150-16-Ф-ГОСТ 15180-86
			410***	AM27-6g 410.70.ЗП182.IV.2	Washer 27.20.III.4.029	AM27-6H.35.III.026	Б-150-16-Ф-ГОСТ 15180-86
FL82FLMA600-RF	12	31,8	370**	AM30-6g 330.70.ЗП182.IV.2	Washer 30.20.III.4.029	AM30-6H.35.III.026	Б-200-16-Ф-ГОСТ 15180-86
			560***	AM30-6g 560.70.ЗП182.IV.2	Washer 30.20.III.4.029	AM30-6H.35.III.026	Б-200-16-Ф-ГОСТ 15180-86
FL102FLMA600-RF	16	34,9	370**	AM30-6g 370.80.ЗП182.IV.2	Washer 30.20.III.4.029	AM30-6H.35.III.026	Б-250-16-Ф-ГОСТ 15180-86
			580***	AM30-6g 580.80.ЗП182.IV.2	Washer 30.20.III.4.029	AM30-6H.35.III.026	Б-250-16-Ф-ГОСТ 15180-86
FL122FLMA600-RF	20	34,9	400**	AM30-6g 400.80.ЗП182.IV.2	Washer 30.20.III.4.029	AM30-6H.35.III.026	Б-300-16-Ф-ГОСТ 15180-86
			580***	AM30-6g 580.80.ЗП182.IV.2	Washer 30.20.III.4.029	AM30-6H.35.III.026	Б-300-16-Ф-ГОСТ 15180-86
ANSI 900							
FL31FLA900-RF	8	25,4	200**	AM24-6g 200.58.ЗП182.IV.2	Washer 24.20.III.4.029	AM24-6H.35.III.026	Б-80-16-Ф-ГОСТ 15180-86
			270***	AM24-6g 270.58.ЗП182.IV.2	Washer 24.20.III.4.029	AM24-6H.35.III.026	Б-80-16-Ф-ГОСТ 15180-86
FL41FLA900-RF	8	31,8	220**	AM30-6g 220.65.ЗП182.IV.2	Washer 30.20.III.4.029	AM30-6H.35.III.026	Б-100-16-Ф-ГОСТ 15180-86
			300***	AM30-6g 300.65.ЗП182.IV.2	Washer 30.20.III.4.029	AM30-6H.35.III.026	Б-100-16-Ф-ГОСТ 15180-86
FL65FLA900-RF	12	31,8	270**	AM30-6g 270.70.ЗП182.IV.2	Washer 30.20.III.4.029	AM30-6H.35.III.026	Б-150-16-Ф-ГОСТ 15180-86
			340***	AM30-6g 340.70.ЗП182.IV.2	Washer 30.20.III.4.029	AM30-6H.35.III.026	Б-150-16-Ф-ГОСТ 15180-86
FL95FLA900-RF	12	38,1	300**	AM36-6g 300.80.ЗП182.IV.2	Washer 36.20.III.4.029	AM36-6H.35.III.026	Б-200-16-Ф-ГОСТ 15180-86
			400***	AM36-6g 400.80.ЗП182.IV.2	Washer 36.20.III.4.029	AM36-6H.35.III.026	Б-200-16-Ф-ГОСТ 15180-86
ANSI 900/1500							
FL23FLA900/1500-RF	4	25,4	180**	AM24-6g 180.58.ЗП182.IV.2	Washer 24.20.III.4.029	AM24-6H.35.III.026	СНП-В-3-61-16,0-3,2 СТ26.260.454-99
			240***	AM24-6g 240.58.ЗП182.IV.2	Washer 24.20.III.4.029	AM24-6H.35.III.026	СНП-В-3-61-16,0-3,2 ОСТ26.260.454-99
FL27FLA900/1500-RF	8	28,6	250**	AM27-6g 250.58.ЗП182.IV.2	Washer 27.20.III.4.029	AM27-6H.35.III.026	СНП-В-3-83-16,0-3,2 ОСТ26.260.454-99
			260***	AM27-6g 260.58.ЗП182.IV.2	Washer 27.20.III.4.029	AM27-6H.35.III.026	СНП-В-3-83-16,0-3,2 ОСТ26.260.454-99
ANSI 1500							
FL31FLA1500-RF	8	31,8	220**	AM30-6g 220.58.ЗП182.IV.2	Washer 30.20.III.4.029	AM30-6H.35.III.026	СНП-В-3-94-16,0-3,2 ОСТ26.260.454-99
			270***	AM30-6g 270.58.ЗП182.IV.2	Washer 30.20.III.4.029	AM30-6H.35.III.026	СНП-В-3-94-16,0-3,2 ОСТ26.260.454-99
FL41FLA1500-RF	8	34,9	260**	AM30-6g 260.65.ЗП182.IV.2	Washer 30.20.III.4.029	AM30-6H.35.III.026	СНП-В-3-117-16,0-3,2 ОСТ26.260.454-99
			310***	AM30-6g 310.65.ЗП182.IV.2	Washer 30.20.III.4.029	AM30-6H.35.III.026	СНП-В-3-117-16,0-3,2 ОСТ26.260.454-99
FL65FLA1500-RF	12	38,1	300**	AM36-6g 300.70.ЗП182.IV.2	Washer 36.20.III.4.029	AM36-6H.35.III.026	СНП-В-3-171-16,0-3,2 ОСТ26.260.454-99
			340***	AM36-6g 340.70.ЗП182.IV.2	Washer 36.20.III.4.029	AM36-6H.35.III.026	СНП-В-3-171-16,0-3,2 ОСТ26.260.454-99
FL95FLA1500-RF	12	44,5	340**	AM42-6g 340.80.ЗП182.IV.2	Washer 42.20.III.4.029	AM42-6H.35.III.026	СНП-В-3-227-16,0-3,2 ОСТ26.260.454-99
			400***	AM42-6g 400.80.ЗП182.IV.2	Washer 42.20.III.4.029	AM42-6H.35.III.026	СНП-В-3-227-16,0-3,2 ОСТ26.260.454-99

** - length of the stud for connecting the fiberglass/fiberglass flange;
*** - length of the stud for connecting the metal/fiberglass flange

Table15.
Flange GOST 33259-2015



Connection size	OD (D +2mm), mm	Width (B ±0.3mm), mm	Length of thread loss when screwed with a nipple (X1), mm	Mounting holes C/C distance (D1 ±1mm), mm	Mounting holes q-ty (n), mm	Mounting holes dia. (d H15), mm	Ridge diameter (D4 h12), mm	Ridge height (h1 +0,5 mm), mm	Art. No.	Product weight with ridge, kg
Pnom 1,6 MPa (16 kgf/cm²)										
2-3/8	160,0	87,4	65,1	125,0	4	18,0	87,0	4,0	FL23FG1	2,72
2-7/8	180,0	95,3	73,0	145,0	4	18,0	109,0	4,0	Fl27FG1	3,73
3-1/2	195,0	101,6	79,4	160,0	4	18,0	120,0	4,0	FL31FG1	4,44
4-1/2	215,0	111,3	88,9	180,0	8	18,0	149,0	4,0	FL41FG1	5,20
6-5/8	280,0	120,7	98,4	240,0	8	22,0	203,0	4,0	FL65FG1	8,93
9-5/8	335,0	143,0	120,7	295,0	8	22,0	259,0	4,0	FL95FG1	11,00
4 (4RD)	215,0	134,9	125,9	180,0	8	18,0	149,0	4,0	FL44FMLG1	6,09
6 (4RD)	280,0	167,1	158,0	240,0	8	22,0	203,0	4,0	FL64FMLG1	11,66
8 (2RDs)	335,0	139,7	131,7	295,0	8	22,0	259,0	4,0	FL82FMSG1	12,40
10 (2RDs)	425,0	167,0	159,0	370,0	12	26,0	312,0	4,0	FL102FMSG1	24,70
10 (2RDl)	425,0	236,0	226,0	370,0	12	26,0	312,0	4,0	FL102FMLG1	34,65
12 (2RDl)	485,0	236,0	226,0	430,0	12	26,0	363,0	5,0	FL122FMLG1	42,14
Pnom 2,5 MPa (25 kgf/cm²)										
2-3/8	160,0	87,4	65,1	125,0	4,0	18,0	87,0	4,0	FL23FG2	2,72
2-7/8	180,0	95,3	73,0	145,0	8,0	18,0	109,0	4,0	FL27FG2	3,55
3-1/2	195,0	101,6	79,4	160,0	8,0	18,0	120,0	4,0	FL31FG2	4,24
4-1/2	230,0	111,3	88,9	190,0	8,0	22,0	149,0	4,0	FL41FG2	6,10
6-5/8	300,0	120,7	98,4	250,0	8,0	26,0	203,0	4,0	FL65FG2	10,77
9-5/8	360,0	143,0	120,7	310,0	12,0	26,0	259,0	4,0	FL95FG2	14,30
4 (4RD)	230,0	134,9	125,9	190,0	8,0	22,0	149,0	4,0	FL44FMLG2	7,20
6 (4RD)	300,0	167,1	158,0	250,0	8,0	26,0	203,0	4,0	FL64FMLG2	14,24
8 (2RDs)	360,0	139,7	131,7	310,0	12,0	26,0	259,0	4,0	FL82FMSG2	15,62
10 (2RDs)	425,0	167,0	159,0	370,0	12,0	30,0	312,0	4,0	FL102FMSG2	24,00
10 (2RDl)	425,0	236,0	226,0	370,0	12,0	30,0	312,0	4,0	FL102FMLG2	33,67
12 (2RDl)	485,0	236,0	226,0	430,0	16,0	30,0	363,0	5,0	FL122FMLG2	39,86

Table 15. Continuation.
Flange GOST 33259-2015

Connection size	OD (D +2mm), mm	Width (B ±0.3mm), mm	Length of thread loss when screwed with a nipple (X1), mm	Mounting holes C/C distance (D1 ±1mm), mm	Mounting holes q-ty (n), mm	Mounting holes dia. (d H15), mm	Ridge diameter (D4 h12), mm	Ridge height (h1 +0,5 mm), mm	Art. No.	Product weight with ridge, kg
Pnom 4,0 MPa (40 kgf/cm²)										
2-3/8	160,0	87,4	65,1	125,0	4,0	18,0	87,0	4,0	FL23FG4	2,72
2-7/8	180,0	95,3	73,0	145,0	8,0	18,0	109,0	4,0	FL27FG4	3,55
3-1/2	195,0	101,6	79,4	160,0	8,0	18,0	120,0	4,0	FL31FG4	4,24
4-1/2	230,0	111,3	88,9	190,0	8,0	22,0	149,0	4,0	FL41FG4	6,10
6-5/8	300,0	120,7	98,4	250,0	8,0	26,0	203,0	4,0	FL65FG4	10,77
9-5/8	375,0	143,0	120,7	320,0	12,0	30,0	259,0	4,0	FL95FG4	16,10
4 (4RD)	230,0	134,9	125,9	190,0	8,0	22,0	149,0	4,0	FL44FMLG4	7,20
6 (4RD)	300,0	167,1	158,0	250,0	8,0	26,0	203,0	4,0	FL64FMLG4	14,24
8 (2RDs)	375,0	139,7	131,7	320,0	12,0	30,0	259,0	4,0	FL82FMSG4	17,40
10 (2RDs)	445,0	167,0	159,0	385,0	12,0	33,0	312,0	4,0	FL102FMSG4	27,88
10 (2RDl)	445,0	236,0	226,0	385,0	12,0	33,0	312,0	4,0	FL102FMLG4	39,18
12 (2RDl)	510,0	236,0	226,0	450,0	16,0	33,0	363,0	5,0	FL122FMLG4	47,80
Pnom 6,3 MPa (63 kgf/cm²)										
2-3/8	175,0	87,4	65,1	135,0	4,0	22,0	87,0	4,0	FL23FG6	3,30
2-7/8	200,0	95,3	73,0	160,0	8,0	22,0	109,0	4,0	FL27FG6	4,45
3-1/2	210,0	101,6	79,4	170,0	8,0	22,0	120,0	4,0	FL31FG6	4,97
4-1/2	250,0	111,3	88,9	200,0	8,0	26,0	149,0	4,0	FL41FG6	7,46
6-5/8	340,0	120,7	98,4	280,0	8,0	33,0	203,0	4,0	FL65FG6	14,88
9-5/8	405,0	143,0	120,7	345,0	12,0	33,0	259,0	4,0	FL95FG6	20,72
4 (4RD)	250,0	134,9	125,9	200,0	8,0	26,0	149,0	4,0	FL44FMLG6	8,85
6 (4RD)	340,0	167,1	158,0	280,0	8,0	33,0	203,0	4,0	FL64FMLG6	19,95
8 (2RDs)	405,0	139,7	131,7	345,0	12,0	33,0	259,0	4,0	FL82FMSG6	21,90
8 (2RDl)	405,0	236,0	226,0	345,0	12,0	33,0	259,0	4,0	FL82FMLG6	36,90
10 (2RDs)	470,0	167,0	159,0	400,0	12,0	39,0	312,0	4,0	FL102FMSG6	32,41
10 (2RDl)	470,0	236,0	226,0	400,0	12,0	39,0	312,0	4,0	FL102FMLG6	45,60
12 (2RDl)	530,0	236,0	226,0	460,0	16,0	39,0	363,0	5,0	FL122FMLG6	52,83
Pnom 10,0 MPa (100 kgf/cm²)										
2-3/8	195,0	87,4	65,1	145,0	4,0	26,0	87,0	4,0	FL23FG10	4,20
2-7/8	220,0	95,3	73,0	170,0	8,0	26,0	109,0	4,0	FL27FG10	5,44
3-1/2	230,0	101,6	79,4	180,0	8,0	26,0	120,0	4,0	FL31FG10	6,09
4-1/2	265,0	111,3	88,9	210,0	8,0	30,0	149,0	4,0	FL41FG10	8,46
6-5/8	350,0	120,7	98,4	290,0	12,0	33,0	203,0	4,0	FL65FG10	15,32
9-5/8	430,0	143,0	120,7	360,0	12,0	39,0	259,0	4,0	FL95FG10	24,14

Table 15. Continuation.
Flange GOST 33259-2015

Connection size	OD (D +2mm), mm	Width (B ±0.3mm), mm	Length of thread loss when screwed with a nipple (X1), mm	Mounting holes C/C distance (D1 ±1mm), mm	Mounting holes q-ty (n), mm	Mounting holes dia. (d H15), mm	Ridge diameter (D4 h12), mm	Ridge height (h1 +0,5 mm), mm	Art. No.	Product weight with ridge, kg
Pnom 16,0 MPa (160 kgf/cm²)										
2-3/8	195,0	87,4	65,1	145,0	4,0	26,0	87,0	4,0	FL23FG16	4,20
2-7/8	220,0	95,3	73,0	170,0	8,0	26,0	109,0	4,0	FL27FG16	5,44
3-1/2	230,0	101,6	79,4	180,0	8,0	26,0	120,0	4,0	FL31FG16	6,09
4-1/2	265,0	111,3	88,9	210,0	8,0	30,0	149,0	4,0	FL41FG16	8,46
6-5/8*	350,0	120,7	98,4	290,0	12,0	33,0	203,0	4,0	FL65FG16	15,32
9-5/8*	430,0	143,0	120,7	360,0	12,0	39,0	259,0	4,0	FL95FG16	24,14
Pnom 20,0 MPa (200 kgf/cm²)										
2-3/8	210,0	87,4	65,1	160,0	8,0	26,0	87,0	4,0	FL23FG20	4,60
2-7/8	260,0	95,3	73,0	203,0	8,0	30,0	109,0	4,0	FL27FG20	7,93
3-1/2	290,0	101,6	79,4	230,0	8,0	33,0	120,0	4,0	FL31FG20	10,40
4-1/2*	360,0	111,3	88,9	292,0	8,0	39,0	149,0	4,5	FL41FG20	17,55
6-5/8*	440,0	120,7	98,4	360,0	12,0	45,0	203,0	4,5	FL65FG20	26,20
9-5/8*	535,0	143,0	120,7	440,0	12,0	52,0	259,0	4,5	FL95FG20	43,01

*- flanges have 13 mm thick thrust washer

Table 15. Continuation.
Flange GOST 33259-2015

Art. No.	N-holes q-ty.	Hole dia. (d),mm	Length ,mm	Stud GOST 9066-75	Washer GOST 9065-75	Nut GOST 9064-75	Gasket
Pnom 1,6 MPa							
FL23FG1	4	18	160**	AM16-6g 160.40.ЭП182.IV.2	Washer 16.20.III.4.029	AM16-6H.35.III.026	Б-50-16-Ф-ГОСТ 15180-86
			240***	AM16-6g 240.40.ЭП182.IV.2	Washer 16.20.III.4.029	AM16-6H.35.III.026	Б-50-16-Ф-ГОСТ 15180-86
FL27FG1	4	18	170**	AM16-6g 170.40.ЭП182.IV.2	Washer 16.20.III.4.029	AM16-6H.35.III.026	Б-60-16-Ф-ГОСТ 15180-86
			250***	AM16-6g 250.40.ЭП182.IV.2	Washer 16.20.III.4.029	AM16-6H.35.III.026	Б-60-16-Ф-ГОСТ 15180-86
FL31FG1	4	18	180**	AM16-6g 180.40.ЭП182.IV.2	Washer 16.20.III.4.029	AM16-6H.35.III.026	Б-80-16-Ф-ГОСТ 15180-86
			260***	AM16-6g 260.40.ЭП182.IV.2	Washer 16.20.III.4.029	AM16-6H.35.III.026	Б-80-16-Ф-ГОСТ 15180-86
FL41FG1	8	18	190**	AM16-6g 190.40.ЭП182.IV.2	Washer 16.20.III.4.029	AM16-6H.35.III.026	Б-100-16-Ф-ГОСТ 15180-86
			280***	AM16-6g 280.40.ЭП182.IV.2	Washer 16.20.III.4.029	AM16-6H.35.III.026	Б-100-16-Ф-ГОСТ 15180-86
FL65FG1	8	22	210**	AM20-6g 210.48.ЭП182.IV.2	Washer 20.20.III.4.029	AM20-6H.35.III.026	Б-150-16-Ф-ГОСТ 15180-86
			310***	AM20-6g 310.48.ЭП182.IV.2	Washer 20.20.III.4.029	AM20-6H.35.III.026	Б-150-16-Ф-ГОСТ 15180-86
FL95FG1	12	22	240**	AM20-6g 240.48.ЭП182.IV.2	Washer 20.20.III.4.029	AM20-6H.35.III.026	Б-200-16-Ф-ГОСТ 15180-86
			360***	AM20-6g 360.48.ЭП182.IV.2	Washer 20.20.III.4.029	AM20-6H.35.III.026	Б-200-16-Ф-ГОСТ 15180-86
FL44FMLG1	8	18	220**	AM16-6g 220.40.ЭП182.IV.2	Washer 16.20.III.4.029	AM16-6H.35.III.026	Б-100-16-Ф-ГОСТ 15180-86
			330***	AM16-6g 330.40.ЭП182.IV.2	Washer 16.20.III.4.029	AM16-6H.35.III.026	Б-100-16-Ф-ГОСТ 15180-86
FL64FMLG1	8	22	260**	AM20-6g 260.48.ЭП182.IV.2	Washer 20.20.III.4.029	AM20-6H.35.III.026	Б-150-16-Ф-ГОСТ 15180-86
			400***	AM20-6g 400.48.ЭП182.IV.2	Washer 20.20.III.4.029	AM20-6H.35.III.026	Б-150-16-Ф-ГОСТ 15180-86
FL82FMSG1	12	22	300**	AM20-6g 300.48.ЭП182.IV.2	Washer 20.20.III.4.029	AM20-6H.35.III.026	Б-200-16-Ф-ГОСТ 15180-86
			500***	AM20-6g 500.48.ЭП182.IV.2	Washer 20.20.III.4.029	AM20-6H.35.III.026	Б-200-16-Ф-ГОСТ 15180-86
FL102FMSG1	12	26	340**	AM24-6g 300.58.ЭП182.IV.2	Washer 24.20.III.4.029	AM24-6H.35.III.026	Б-250-16-Ф-ГОСТ 15180-86
			550***	AM24-6g 300.58.ЭП182.IV.2	Washer 24.20.III.4.029	AM24-6H.35.III.026	Б-250-16-Ф-ГОСТ 15180-86
FL102FMLG1	12	26	340**	AM24-6g 300.58.ЭП182.IV.2	Washer 24.20.III.4.029	AM24-6H.35.III.026	Б-250-16-Ф-ГОСТ 15180-86
			550***	AM24-6g 300.58.ЭП182.IV.2	Washer 24.20.III.4.029	AM24-6H.35.III.026	Б-250-16-Ф-ГОСТ 15180-86
FL122FMLG1	12	26	340**	AM24-6g 300.58.ЭП182.IV.2	Washer 24.20.III.4.029	AM24-6H.35.III.026	Б-300-16-Ф-ГОСТ 15180-86
			550***	AM24-6g 300.58.ЭП182.IV.2	Washer 24.20.III.4.029	AM24-6H.35.III.026	Б-300-16-Ф-ГОСТ 15180-86
Pnom 2,5 MPa							
FL23FG2	4	18	160**	AM16-6g 160.40.ЭП182.IV.2	Washer 16.20.III.4.029	AAM16-6H.35.III.026	Б-50-16-Ф-ГОСТ 15180-86
			230***	AM16-6g 230.40.ЭП182.IV.2	Washer 16.20.III.4.029	AM16-6H.35.III.026	Б-50-16-Ф-ГОСТ 15180-86
FL27FG2	8	18	170**	AM16-6g 170.40.ЭП182.IV.2	Washer 16.20.III.4.029	AM16-6H.35.III.026	Б-60-16-Ф-ГОСТ 15180-86
			250***	AM16-6g 250.40.ЭП182.IV.2	Washer 16.20.III.4.029	AM16-6H.35.III.026	Б-60-16-Ф-ГОСТ 15180-86
FL31FG2	8	18	180**	AM16-6g 180.40.ЭП182.IV.2	Washer 16.20.III.4.029	AM16-6H.35.III.026	Б-80-16-Ф-ГОСТ 15180-86
			260***	AM16-6g 260.40.ЭП182.IV.2	Washer 16.20.III.4.029	AM16-6H.35.III.026	Б-80-16-Ф-ГОСТ 15180-86
FL41FG2	8	22	200**	AM20-6g 200.48.ЭП182.IV.2	Washer 20.20.III.4.029	AM20-6H.35.III.026	Б-100-16-Ф-ГОСТ 15180-86
			290***	AM20-6g 290.48.ЭП182.IV.2	Washer 20.20.III.4.029	AM20-6H.35.III.026	Б-100-16-Ф-ГОСТ 15180-86
FL65FG2	8	26	220**	AM24-6g 220.58.ЭП182.IV.2	Washer 24.20.III.4.029	AM24-6H.35.III.026	Б-150-16-Ф-ГОСТ 15180-86
			320***	AM24-6g 320.58.ЭП182.IV.2	Washer 24.20.III.4.029	AM24-6H.35.III.026	Б-150-16-Ф-ГОСТ 15180-86
FL95FG2	12	26	250**	AM24-6g 250.58.ЭП182.IV.2	Washer 24.20.III.4.029	AM24-6H.35.III.026	Б-200-16-Ф-ГОСТ 15180-86
			360***	AM24-6g 360.58.ЭП182.IV.2	Washer 24.20.III.4.029	AM24-6H.35.III.026	Б-200-16-Ф-ГОСТ 15180-86
FL44FMLG2	8	22	220**	AM20-6g 220.48.ЭП182.IV.2	Washer 20.20.III.4.029	AM20-6H.35.III.026	Б-100-16-Ф-ГОСТ 15180-86
			330***	AM20-6g 330.48.ЭП182.IV.2	Washer 20.20.III.4.029	AM20-6H.35.III.026	Б-100-16-Ф-ГОСТ 15180-86
FL64FMLG2	8	26	270**	AM24-6g 270.58.ЭП182.IV.2	Washer 24.20.III.4.029	AM24-6H.35.III.026	Б-150-16-Ф-ГОСТ 15180-86
			410***	AM24-6g 410.58.ЭП182.IV.2	Washer 24.20.III.4.029	AM24-6H.35.III.026	Б-150-16-Ф-ГОСТ 15180-86
FL82FMSG2	12	26	310**	AM24-6g 310.58.ЭП182.IV.2	Washer 24.20.III.4.029	AM24-6H.35.III.026	Б-200-16-Ф-ГОСТ 15180-86
			510***	AM24-6g 510.58.ЭП182.IV.2	Washer 24.20.III.4.029	AM24-6H.35.III.026	Б-200-16-Ф-ГОСТ 15180-86
FL102FMSG2	12	30	350**	AM27-6g 350.65.ЭП182.IV.2	Washer 27.20.III.4.029	AM27-6H.35.III.026	Б-250-16-Ф-ГОСТ 15180-86
			560***	AM27-6g 560.65.ЭП182.IV.2	Washer 27.20.III.4.029	AM27-6H.35.III.026	Б-250-16-Ф-ГОСТ 15180-86
FL102FMLG2	12	30	350**	AM27-6g 350.65.ЭП182.IV.2	Washer 27.20.III.4.029	AM27-6H.35.III.026	Б-250-16-Ф-ГОСТ 15180-86
			560***	AM27-6g 560.65.ЭП182.IV.2	Washer 27.20.III.4.029	AM27-6H.35.III.026	Б-250-16-Ф-ГОСТ 15180-86
FL122FMLG2	16	30	350**	AM27-6g 350.65.ЭП182.IV.2	Washer 27.20.III.4.029	AM27-6H.35.III.026	Б-300-16-Ф-ГОСТ 15180-86
			560***	AM27-6g 560.65.ЭП182.IV.2	Washer 27.20.III.4.029	AM27-6H.35.III.026	Б-300-16-Ф-ГОСТ 15180-86

Table 15. Continuation.
Flange GOST 33259-2015

Art. No.	N-holes q-ty.	Hole dia. (d),mm	Length ,mm	Stud GOST 9066-75	Washer GOST 9065-75	Nut GOST 9064-75	Gasket
Pnom 4,0 MPa							
FL23FG4	4	18	160**	AM16-6g 160.40.ЭП182.IV.2	Washer 16.20.III.4.029	AM16-6H.35.III.026	Б-50-16-Ф-ГОСТ 15180-86
			230***	AM16-6g 230.40.ЭП182.IV.2	Washer 16.20.III.4.029	AM16-6H.35.III.026	Б-50-16-Ф-ГОСТ 15180-86
FL27FG4	8	18	170**	AM16-6g 170.40.ЭП182.IV.2	Washer 16.20.III.4.029	AM16-6H.35.III.026	Б-60-16-Ф-ГОСТ 15180-86
			250***	AM16-6g 250.40.ЭП182.IV.2	Washer 16.20.III.4.029	AM16-6H.35.III.026	Б-60-16-Ф-ГОСТ 15180-86
FL31FG4	8	18	180**	AM16-6g 180.40.ЭП182.IV.2	Washer 16.20.III.4.029	AM16-6H.35.III.026	Б-80-16-Ф-ГОСТ 15180-86
			260***	AM16-6g 260.40.ЭП182.IV.2	Washer 16.20.III.4.029	AM16-6H.35.III.026	Б-80-16-Ф-ГОСТ 15180-86
FL41FG4	8	22	200**	AM20-6g 200.48.ЭП182.IV.2	Washer 20.20.III.4.029	AM20-6H.35.III.026	Б-100-16-Ф-ГОСТ 15180-86
			290***	AM20-6g 290.48.ЭП182.IV.2	Washer 20.20.III.4.029	AM20-6H.35.III.026	Б-100-16-Ф-ГОСТ 15180-86
FL65FG4	8	26	210**	AM24-6g 220.58.ЭП182.IV.2	Washer 24.20.III.4.029	AM24-6H.35.III.026	Б-150-16-Ф-ГОСТ 15180-86
			320***	AM24-6g 320.58.ЭП182.IV.2	Washer 24.20.III.4.029	AM24-6H.35.III.026	Б-150-16-Ф-ГОСТ 15180-86
FL95FG4	12	30	270**	AM27-6g 270.65.ЭП182.IV.2	Washer 27.20.III.4.029	AM27-6H.35.III.026	Б-200-16-Ф-ГОСТ 15180-86
			380***	AM27-6g 380.65.ЭП182.IV.2	Washer 27.20.III.4.029	AM27-6H.35.III.026	Б-200-16-Ф-ГОСТ 15180-86
FL44FMLG4	8	22	220**	AM20-6g 220.48.ЭП182.IV.2	Washer 20.20.III.4.029	AM20-6H.35.III.026	Б-100-16-Ф-ГОСТ 15180-86
			340***	AM20-6g 340.48.ЭП182.IV.2	Washer 20.20.III.4.029	AM20-6H.35.III.026	Б-100-16-Ф-ГОСТ 15180-86
FL64FMLG4	8	26	270**	AM24-6g 270.58.ЭП182.IV.2	Washer 24.20.III.4.029	AM24-6H.35.III.026	Б-150-16-Ф-ГОСТ 15180-86
			410***	AM24-6g 410.58.ЭП182.IV.2	Washer 24.20.III.4.029	AM24-6H.35.III.026	Б-150-16-Ф-ГОСТ 15180-86
FL82FMSG4	12	30	320**	AM27-6g 320.65.ЭП182.IV.2	Washer 27.20.III.4.029	AM27-6H.35.III.026	Б-200-16-Ф-ГОСТ 15180-86
			520***	AM27-6g 520.65.ЭП182.IV.2	Washer 27.20.III.4.029	AM27-6H.35.III.026	Б-200-16-Ф-ГОСТ 15180-86
FL102FMSG4	12	33	370**	AM30-6g 370.70.ЭП182.IV.2	Washer 30.20.III.4.029	AM30-6H.35.III.026	Б-250-16-Ф-ГОСТ 15180-86
			570***	AM30-6g 570.70.ЭП182.IV.2	Washer 30.20.III.4.029	AM30-6H.35.III.026	Б-250-16-Ф-ГОСТ 15180-86
FL102FMLG4	12	33	370**	AM30-6g 370.70.ЭП182.IV.2	Washer 30.20.III.4.029	AM30-6H.35.III.026	Б-250-16-Ф-ГОСТ 15180-86
			570***	AM30-6g 570.70.ЭП182.IV.2	Washer 30.20.III.4.029	AM30-6H.35.III.026	Б-250-16-Ф-ГОСТ 15180-86
FL122FMLG4	16	33	370**	AM30-6g 370.70.ЭП182.IV.2	Washer 30.20.III.4.029	AM30-6H.35.III.026	Б-300-16-Ф-ГОСТ 15180-86
			570***	AM30-6g 570.70.ЭП182.IV.2	Washer 30.20.III.4.029	AM30-6H.35.III.026	Б-300-16-Ф-ГОСТ 15180-86
Pnom 6,3 MPa							
FL23FG6	4	22	180**	AM20-6g 180.48.ЭП182.IV.2	Washer 20.20.III.4.029	AM20-6H.35.III.026	Б-50-16-Ф-ГОСТ 15180-86
			240***	AM20-6g 240.48.ЭП182.IV.2	Washer 20.20.III.4.029	AM20-6H.35.III.026	Б-50-16-Ф-ГОСТ 15180-86
FL27FG6	8	22	190**	AM20-6g 190.48.ЭП182.IV.2	Washer 20.20.III.4.029	AM20-6H.35.III.026	Б-60-16-Ф-ГОСТ 15180-86
			260***	AM20-6g 260.48.ЭП182.IV.2	Washer 20.20.III.4.029	AM20-6H.35.III.026	Б-60-16-Ф-ГОСТ 15180-86
FL31FG6	8	22	190**	AM20-6g 190.48.ЭП182.IV.2	Washer 20.20.III.4.029	AM20-6H.35.III.026	Б-80-16-Ф-ГОСТ 15180-86
			270***	AM20-6g 270.48.ЭП182.IV.2	Washer 20.20.III.4.029	AM20-6H.35.III.026	Б-80-16-Ф-ГОСТ 15180-86
FL41FG6	8	26	220**	AM24-6g 220.58.ЭП182.IV.2	Washer 24.20.III.4.029	AM24-6H.35.III.026	Б-100-16-Ф-ГОСТ 15180-86
			300***	AM24-6g 300.58.ЭП182.IV.2	Washer 24.20.III.4.029	AM24-6H.35.III.026	Б-100-16-Ф-ГОСТ 15180-86
FL65FG6	8	33	240**	AM30-6g 240.70.ЭП182.IV.2	Washer 30.20.III.4.029	AM30-6H.35.III.026	Б-150-16-Ф-ГОСТ 15180-86
			330***	AM30-6g 330.70.ЭП182.IV.2	Washer 30.20.III.4.029	AM30-6H.35.III.026	Б-150-16-Ф-ГОСТ 15180-86
FL95FG6	12	33	280**	AM30-6g 280.70.ЭП182.IV.2	Washer 30.20.III.4.029	AM30-6H.35.III.026	Б-200-16-Ф-ГОСТ 15180-86
			380***	AM30-6g 380.70.ЭП182.IV.2	Washer 30.20.III.4.029	AM30-6H.35.III.026	Б-200-16-Ф-ГОСТ 15180-86
FL44FMLG6	8	26	230**	AM24-6g 230.58.ЭП182.IV.2	Washer 24.20.III.4.029	AM24-6H.35.III.026	Б-100-16-Ф-ГОСТ 15180-86
			330***	AM24-6g 330.58.ЭП182.IV.2	Washer 24.20.III.4.029	AM24-6H.35.III.026	Б-100-16-Ф-ГОСТ 15180-86
FL64FMLG6	8	33	280**	AM30-6g 280.70.ЭП182.IV.2	Washer 30.20.III.4.029	AM30-6H.35.III.026	Б-150-16-Ф-ГОСТ 15180-86
			410***	AM30-6g 410.70.ЭП182.IV.2	Washer 30.20.III.4.029	AM30-6H.35.III.026	Б-150-16-Ф-ГОСТ 15180-86
FL82FMSG6	12	33	330**	AM30-6g 330.70.ЭП182.IV.2	Washer 30.20.III.4.029	AM30-6H.35.III.026	Б-200-16-Ф-ГОСТ 15180-86
			520***	AM30-6g 520.70.ЭП182.IV.2	Washer 30.20.III.4.029	AM30-6H.35.III.026	Б-200-16-Ф-ГОСТ 15180-86
FL82FMLG6	12	33	370**	AM30-6g 370.70.ЭП182.IV.2	Washer 30.20.III.4.029	AM30-6H.35.III.026	Б-200-16-Ф-ГОСТ 15180-86
			560***	AM30-6g 560.70.ЭП182.IV.2	Washer 30.20.III.4.029	AM30-6H.35.III.026	Б-200-16-Ф-ГОСТ 15180-86
FL102FMSG6	12	39	370**	AM36-6g 370.80.ЭП182.IV.2	Washer 36.20.III.4.029	AM36-6H.35.III.026	Б-250-16-Ф-ГОСТ 15180-86
			580***	AM36-6g 580.80.ЭП182.IV.2	Washer 36.20.III.4.029	AM36-6H.35.III.026	Б-250-16-Ф-ГОСТ 15180-86
FL102FMLG6	12	39	370**	AM36-6g 370.80.ЭП182.IV.2	Washer 36.20.III.4.029	AM36-6H.35.III.026	Б-250-16-Ф-ГОСТ 15180-86
			580***	AM36-6g 580.80.ЭП182.IV.2	Washer 36.20.III.4.029	AM36-6H.35.III.026	Б-250-16-Ф-ГОСТ 15180-86
FL122FMLG6	16	39	400**	AM36-6g 400.80.ЭП182.IV.2	Washer 36.20.III.4.029	AM36-6H.35.III.026	Б-300-16-Ф-ГОСТ 15180-86
			580***	AM36-6g 580.80.ЭП182.IV.2	Washer 36.20.III.4.029	AM36-6H.35.III.026	Б-300-16-Ф-ГОСТ 15180-86

Table 15. Continuation.
Flange GOST 33259-2015

Art. No.	N-holes q-ty.	Hole dia. (d),mm	Length ,mm	Stud GOST 9066-75	Washer GOST 9065-75	Nut GOST 9064-75	Gasket
Pnom 10,0 MPa							
FL23FG10	4	26	180**	AM24-6g 180.58.ЭП182.IV.2	Washer 24.20.III.4.029	AM24-6H.35.III.026	Б-50-16-Ф-ГОСТ 15180-86
			240***	AM24-6g 240.58.ЭП182.IV.2	Washer 24.20.III.4.029	AM24-6H.35.III.026	Б-50-16-Ф-ГОСТ 15180-86
FL27FG10	8	26	190**	AM24-6g 190.58.ЭП182.IV.2	Washer 24.20.III.4.029	AM24-6H.35.III.026	Б-60-16-Ф-ГОСТ 15180-86
			260***	AM24-6g 260.58.ЭП182.IV.2	Washer 24.20.III.4.029	AM24-6H.35.III.026	Б-60-16-Ф-ГОСТ 15180-86
FL31FG10	8	26	200**	AM24-6g 200.58.ЭП182.IV.2	Washer 24.20.III.4.029	AM24-6H.35.III.026	Б-80-16-Ф-ГОСТ 15180-86
			270***	AM24-6g 270.58.ЭП182.IV.2	Washer 24.20.III.4.029	AM24-6H.35.III.026	Б-80-16-Ф-ГОСТ 15180-86
FL41FG10	8	30	220**	AM27-6g 220.65.ЭП182.IV.2	Washer 27.20.III.4.029	AM27-6H.35.III.026	Б-100-16-Ф-ГОСТ 15180-86
			300***	AM27-6g 300.65.ЭП182.IV.2	Washer 27.20.III.4.029	AM27-6H.35.III.026	Б-100-16-Ф-ГОСТ 15180-86
FL65FG10	12	33	250**	AM30-6g 250.70.ЭП182.IV.2	Washer 30.20.III.4.029	AM30-6H.35.III.026	Б-150-16-Ф-ГОСТ 15180-86
			330***	AM30-6g 330.70.ЭП182.IV.2	Washer 30.20.III.4.029	AM30-6H.35.III.026	Б-150-16-Ф-ГОСТ 15180-86
FL95FG10	12	39	290**	AM36-6g 290.80.ЭП182.IV.2	Washer 36.20.III.4.029	AM36-6H.35.III.026	Б-200-16-Ф-ГОСТ 15180-86
			380***	AM36-6g 380.80.ЭП182.IV.2	Washer 36.20.III.4.029	AM36-6H.35.III.026	Б-200-16-Ф-ГОСТ 15180-86
Pnom 16,0 MPa							
FL23FG16	4	26	180**	AM24-6g 180.58.ЭП182.IV.2	Washer 24.20.III.4.029	AM24-6H.35.III.026	Б-50-16-Ф-ГОСТ 15180-86
			240***	AM24-6g 240.58.ЭП182.IV.2	Washer 24.20.III.4.029	AM24-6H.35.III.026	Б-50-16-Ф-ГОСТ 15180-86
FL27FG16	8	26	190**	AM24-6g 190.58.ЭП182.IV.2	Washer 24.20.III.4.029	AM24-6H.35.III.026	Б-60-16-Ф-ГОСТ 15180-86
			260***	AM24-6g 260.58.ЭП182.IV.2	Washer 24.20.III.4.029	AM24-6H.35.III.026	Б-60-16-Ф-ГОСТ 15180-86
FL31FG16	8	26	200**	AM24-6g 200.58.ЭП182.IV.2	Washer 24.20.III.4.029	AM24-6H.35.III.026	Б-80-16-Ф-ГОСТ 15180-86
			270***	AM24-6g 270.58.ЭП182.IV.2	Washer 24.20.III.4.029	AM24-6H.35.III.026	Б-80-16-Ф-ГОСТ 15180-86
FL41FG16	8	30	220**	AM27-6g 220.65.ЭП182.IV.2	Washer 27.20.III.4.029	AM27-6H.35.III.026	Б-100-16-Ф-ГОСТ 15180-86
			300***	AM27-6g 300.65.ЭП182.IV.2	Washer 27.20.III.4.029	AM27-6H.35.III.026	Б-100-16-Ф-ГОСТ 15180-86
FL65FG16	12	33	270**	AM30-6g 270.70.ЭП182.IV.2	Washer 30.20.III.4.029	AM30-6H.35.III.026	Б-150-16-Ф-ГОСТ 15180-86
			340***	AM30-6g 340.70.ЭП182.IV.2	Washer 30.20.III.4.029	AM30-6H.35.III.026	Б-150-16-Ф-ГОСТ 15180-86
FL95FG20	12	45	340**	AM36-6g 310.80.ЭП182.IV.2	Washer 36.20.III.4.029	AM36-6H.35.III.026	Б-200-16-Ф-ГОСТ 15180-86
		52	400***	AM36-6g 400.80.ЭП182.IV.2	Washer 36.20.III.4.029	AM36-6H.35.III.026	Б-200-16-Ф-ГОСТ 15180-86
Pnom 20,0 MPa							
FL23FG10	4	26	180**	AM24-6g 180.58.ЭП182.IV.2	Washer 24.20.III.4.029	AM24-6H.35.III.026	Б-50-16-Ф-ГОСТ 15180-86
			240***	AM24-6g 240.58.ЭП182.IV.2	Washer 24.20.III.4.029	AM24-6H.35.III.026	Б-50-16-Ф-ГОСТ 15180-86
FL27FG10	8	26	190**	AM24-6g 190.58.ЭП182.IV.2	Washer 24.20.III.4.029	AM24-6H.35.III.026	Б-60-16-Ф-ГОСТ 15180-86
			260***	AM24-6g 260.58.ЭП182.IV.2	Washer 24.20.III.4.029	AM24-6H.35.III.026	Б-60-16-Ф-ГОСТ 15180-86
FL31FG10	8	26	200**	AM24-6g 200.58.ЭП182.IV.2	Washer 24.20.III.4.029	AM24-6H.35.III.026	Б-80-16-Ф-ГОСТ 15180-86
			270***	AM24-6g 270.58.ЭП182.IV.2	Washer 24.20.III.4.029	AM24-6H.35.III.026	Б-80-16-Ф-ГОСТ 15180-86
FL41FG10	8	30	220**	AM27-6g 220.65.ЭП182.IV.2	Washer 27.20.III.4.029	AM27-6H.35.III.026	Б-100-16-Ф-ГОСТ 15180-86
			300***	AM27-6g 300.65.ЭП182.IV.2	Washer 27.20.III.4.029	AM27-6H.35.III.026	Б-100-16-Ф-ГОСТ 15180-86
FL65FG10	12	33	250**	AM30-6g 250.70.ЭП182.IV.2	Washer 30.20.III.4.029	AM30-6H.35.III.026	Б-150-16-Ф-ГОСТ 15180-86
			330***	AM30-6g 330.70.ЭП182.IV.2	Washer 30.20.III.4.029	AM30-6H.35.III.026	Б-150-16-Ф-ГОСТ 15180-86
FL95FG10	12	39	290**	AM36-6g 290.80.ЭП182.IV.2	Washer 36.20.III.4.029	AM36-6H.35.III.026	Б-200-16-Ф-ГОСТ 15180-86
			380***	AM36-6g 380.80.ЭП182.IV.2	Washer 36.20.III.4.029	AM36-6H.35.III.026	Б-200-16-Ф-ГОСТ 15180-86

** - length for stud to connect fiberglass/fiberglass flange;
*** - length for stud to connect metal/fiberglass flange

Stud diameter, mm	Torque	
	Class 2	
	N/m	kg/m
18	73	7,4
22	130	13,1
24	210	21,1
27	311	31,4
30	439	44,3
33	623	64,5
36	806	81,4
39	1077	108,7
45	1347	133,1
52	1618	163,4

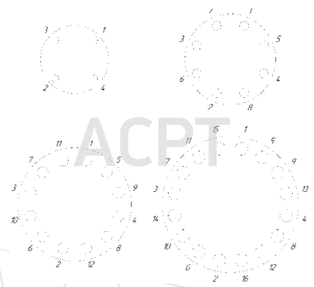


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Table 16.
Recommendations for selection the shaped product for their intended purpose during field pipelines design

Connection size, inch	DN, mm	Nominal pressure, MPa	90° branch	60° branch	45° branch	30° branch	22,5° branch	11,25° branch	Straight tee
Flow lines, gathering manifolds									
6-5/8	150	4,0	Table 1 cl. 1	Table 2 cl. 1	Table 3 cl. 1	Table 4 cl. 1	Table 5 cl. 1	Table 6 cl. 1	Table 7 cl. 1
9-5/8	200		Table 1 cl. 2	Table 2 cl. 2	Table 3 cl. 2	Table 4 cl. 2	Table 5 cl. 2	Table 6 cl. 2	Table 7 cl. 2
2-7/8	60	5,5	Table 1 cl. 8	Table 2 cl.8	Table 3 cl. 8	Table 4 cl. 8	Table 5 cl.8	Table 6 cl. 8	Table 7 cl. 8
3-1/2	80		Table 1 cl. 9	Table 2 cl. 9	Table 3 cl. 9	Table 4 cl. 9	Table 5 cl. 9	Table 6 cl. 9	Table 7 cl. 9
4-1/2	100		Table 1 cl. 10	Table 2 cl. 10	Table 3 cl. 10	Table 4 cl. 10	Table 5 cl. 10	Table 6 cl. 10	Table 7cl. 10
6-5/8	150		Table 1 cl. 11	Table 2 cl. 11	Table 3 cl. 11	Table 4 cl. 11	Table 5 cl. 11	Table 6 cl. 11	Table 7 cl. 11
Discharge manifolds									
2-7/8	60	5,5	Table 1 cl. 8	Table 2 cl. 8	Table 3 cl. 8	Table 4 cl. 8	Table 5 cl. 8	Table 6 cl. 8	Table 7 cl. 8
3-1/2	80		Table 1 cl. 9	Table 2 cl. 9	Table 3 cl. 9	Table 4 cl. 9	Table 5 cl. 9	Table 6 cl. 9	Table 7 cl. 9
4-1/2	100		Table 1 cl. 10	Table 2 cl. 10	Table 3 cl. 10	Table 4 cl. 10	Table 5 cl. 10	Table 6 cl. 10	Table 7 cl. 10
6-5/8	150		Table 1 cl. 11	Table 2 cl. 11	Table 3 cl. 11	Table 4 cl. 11	Table 5 cl. 11	Table 6 cl. 11	Table 7 cl. 11
9-5/8	200		Table 1 cl. 12	Table 2 cl. 12	Table 3 cl. 12	Table 4 cl. 12	Table 5 cl. 12	Table 6 cl. 12	Table 7 cl. 12
4-1/2	100	6,9							Table 7 cl. 18
6-5/8	150		Table 1 cl. 18	Table 2 cl. 18	Table 3 cl. 18	Table 4 cl. 18	Table 5 cl. 18	Table 6 cl. 18	Table 7 cl. 19
9-5/8	200		Table 1 cl. 19	Table 2 cl. 19	Table 3 cl. 19	Table 4 cl. 19	Table 5 cl. 19	Table 6 cl. 19	Table 7 cl. 20
2-3/8	50	8,6	Table 1 cl. 25	Table 2 cl. 25	Table 3 cl. 25	Table 4 cl. 25	Table 5 cl. 25	Table 6 cl. 25	Table 7 cl. 26
2-7/8	60		Table 1 cl. 26	Table 2 cl. 26	Table 3 cl. 26	Table 4 cl. 26	Table 5 cl. 26	Table 6 cl. 26	Table 7 cl. 27
3-1/2	80		Table 1 cl. 27	Table 2 cl. 27	Table 3 cl. 27	Table 4 cl. 27	Table 5 cl. 27	Table 6 cl. 27	Table 7 cl. 28
4-1/2	100		Table 1 cl. 28	Table 2 cl. 28	Table 3 cl. 28	Table 4 cl. 28	Table 5 cl. 28	Table 6 cl. 28	
6-5/8	150		Table 1 cl. 29	Table 2 cl. 29	Table 3 cl. 29	Table 4 cl. 29	Table 5 cl. 29	Table 6 cl. 29	Table 7 cl. 29
9-5/8	200		Table 1 cl. 30	Table 2 cl. 30	Table 3 cl. 30	Table 4 cl. 30	Table 5 cl. 30	Table 6 cl. 30	Table 7 cl. 30
HP intake tunnels									
6-5/8	150	10,3	Table 1 cl. 36	Table 2 cl. 36	Table 3 cl. 36	Table 4 cl. 36	Table 5 cl. 36		Table 7 cl. 36
9-5/8	200		Table 1 cl. 37	Table 2 cl. 37	Table 3 cl. 37	Table 4 cl. 37	Table 5 cl. 37	Table 6 cl. 36	Table 7 cl. 37
2-3/8	50	13,8	Table 1 cl. 38	Table 2 cl. 38	Table 3 cl. 38	Table 4 cl. 38	Table 5 cl. 38	Table 6 cl. 37	Table 7 cl. 38
2-7/8	60		Table 1 cl. 39	Table 2 cl. 39	Table 3 cl. 39	Table 4 cl. 39	Table 5 cl. 39	Table 6 cl. 38	Table 7 cl. 39
3-1/2	80		Table 1 cl. 40	Table 2 cl. 40	Table 3 cl. 40	Table 4 cl. 40	Table 5 cl. 40	Table 6 cl. 39	Table 7 cl. 40
4-1/2	100		Table 1 cl. 41	Table 2 cl. 41	Table 3 cl. 41	Table 4 cl. 41	Table 5 cl. 41	Table 6 cl. 40	Table 7 cl. 41
6-5/8	150		Table 1 cl. 42	Table 2 cl. 42	Table 3 cl. 42	Table 4 cl. 42	Table 5 cl. 42	Table 6 cl. 41	Table 7 cl. 42
9-5/8	200		Table 1 cl. 43	Table 2 cl. 43	Table 3 cl. 43	Table 4 cl. 43	Table 5 cl. 43	Table 6 cl. 42	Table 7 cl. 43
2-3/8	50	17,2	Table 1 cl. 44	Table 2 cl. 44	Table 3 cl. 44	Table 4 cl. 44	Table 5 cl. 44	Table 6 cl. 43	Table 7 cl. 44
2-7/8	60		Table 1 cl. 45	Table 2 cl. 45	Table 3 cl. 45	Table 4 cl. 45	Table 5 cl. 45	Table 6 cl. 44	Table 7 cl. 45
3-1/2	80		Table 1 cl. 46	Table 2 cl. 46	Table 3 cl. 46	Table 4 cl. 46	Table 5 cl. 46	Table 6 cl. 45	Table 7 cl. 46
4-1/2	100		Table 1 cl. 47	Table 2 cl. 47	Table 3 cl. 47	Table 4 cl. 47	Table 5 cl. 47	Table 6 cl. 46	Table 7 cl. 47

Table16. Continuation.
Recommendations for selection the shaped product for their intended purpose during field pipelines design

Connection size, inch	DN, mm	Nominal pressure, MPa	90° branch	60° branch	45° branch	30° branch	22,5° branch	11,25° branch	Straight tee
HP intake tunnels									
2-3/8	4850	20,7	Table 1cl. 48	Tab. 2 cl. 48	Table 3 cl. 48	Tab. 4 cl. 48	Tab. 5 cl. 48	Tab. 6 cl. 48	Tab. 7 cl. 48
2-7/8	60		Table 1cl. 49	Tab. 2 cl. 49	Tab.3 cl.49	Tab. 4 cl.49	Tab. 5 cl.49	Tab. 6 cl.49	Tab. 7 cl.49
3-1/2	80		Table 1 cl. 50	Tab. 2 cl. 50	Tab. 3 cl. 50	Tab. 4 cl. 50	Tab. 5 cl. 50	Tab. 6 cl. 50	Tab. 7 cl. 50
4-1/2	100		Table 1 cl. 51	Table 2cl. 51	Tab. 3 cl. 51	Tab. 4 cl. 51	Tab. 5 cl. 51	Tab. 6 cl. 51	Tab. 7 cl. 51
2-3/8	50	24,1	Table1 cl. 52	Table 2cl. 52	Tab. 3 cl.52	Tab. 4 cl.52	Tab. 5 cl. 52	Tab. 6 cl. 52	Tab. 7 cl. 52
2-7/8	60		Table 1 cl. 53	Table 2cl. 53	Tab. 3 cl. 53	Tab. 4 cl. 53	Tab. 5 cl. 53	Tab. 6 cl. 53	Tab. 7 cl. 53
3-1/2	80		Tab. 1 cl. 54	Table 2 cl. 54	Tab. 3 cl. 54	Tab. 4 cl. 54	Tab. 5 cl. 54	Tab. 6 cl. 54	Tab. 7 cl. 54
4-1/2	100		Table 1 cl. 55	Table 2cl. 55	Tab. 3 cl. 55	Tab. 4 cl. 55	Tab. 5 cl. 55	Tab. 6 cl. 55	Tab. 7 cl. 55
Oil and gas emulsion and water pumping									
6	3150	4,0	Tab. 1 cl.	Tab. 2 cl. 3	Tab. 3 cl. 3	Tab. 4 cl. 3	Tab. 5 cl. 3	Tab. 6 cl. 3	Tab. 7 cl. 3
8	4200		Tab. 1 cl.	Tab. 2 cl. 4	Tab. 3 cl. 4	Tab. 4 cl. 4	Tab. 5 cl. 4	Tab. 6 cl. 4	Табл. 7 cl. 4
10	250		Tab. 1 cl. 5,6	Tab. 2 cl. 5,6	Tab. 3 cl. 5,6	Tab. 4 cl. 5,6	Tab. 5 cl. 5,6	Tab. 6 cl. 5,6	Tab. 7 cl. 5,6
12	7300		Tab. 1 cl.	Tab. 2 cl. 7	Tab. 3 cl. 7	Tab. 4 cl. 7	Tab. 5 cl. 7	Tab. 6 cl. 7	Tab. 7 cl. 7
6	13150		Tab. 1 cl.	Tab. 2 cl. 13	Tab. 3 cl. 13	Tab. 4 cl. 13	Tab. 5 cl. 13	Tab. 6 cl. 13	Tab. 7 cl. 13
8 (2RD)	200	5,5	Tab. 1 cl. 14	Tab. 2 cl. 14	Tab. 3 cl. 14	Tab. 4 cl. 14	Tab. 5 cl. 14	Tab. 6 cl. 14	Tab. 7 cl. 14
10 (2RD)	250		Tab. 1 cl. 15, 16	Tab. 2 cl. 15, 16	Tab. 3 cl. 15, 16	Tab. 4 cl. 15, 16	Tab. 5 cl. 15, 16	Tab. 6 cl. 15, 16	Tab. 7 cl. 15, 16
12 (2RD)	300		Tab. 1 cl.17	Tab. 2 cl. 17	Tab. 3 cl. 17	Tab. 4 cl. 17	Tab. 5 cl. 17	Tab. 6 cl. 17	Tab. 7 cl. 17
6 (4RD)	150	6,9	Tab. 1 cl.20	Tab. 2 cl. 20	Tab. 3 cl. 20	Tab. 4 cl. 20	Tab. 5 cl. 20	Tab. 6 cl. 20	Tab. 7 cl. 21
8 (2RD)	200		Tab. 1 cl. 21	Tab. 2 cl. 21	Tab. 3 cl. 21	Tab. 4 cl. 21	Tab. 5 cl. 21	Tab. 6 cl. 21	Tab. 7 cl. 22
10 (2RD)	250		Tab. 1 cl. 22, 23	Tab. 2 cl. 22, 23	Tab. 3 cl. 22, 23	Tab. 4 cl. 22,23	Tab. 5 cl. 22,23	Tab. 6 cl. 22,23	Tab. 7 cl. 23, 24
12 (2RD)	300		Tab. 1 cl. 24	Tab. 2 cl. 24	Tab. 3 cl. 24	Tab. 4 cl. 24	Tab. 5 cl. 24	Tab. 6 cl. 24	Tab. 7 cl. 25
4 (4RD)	100	8,6	Table 1 cl. 31	Table 2 cl. 31	Table 3 cl. 31	Tab. 4 cl. 31	Tab. 5 cl. 31	Tab. 6 cl.31	Tab. 7 cl.31
6 (4RD)	150		Tab. 1 cl. 32	Tab. 2 cl. 32	Tab. 3 cl. 32	Tab. 4 cl. 32	Tab. 5 cl. 32	Tab. 6 cl.32	Tab. 7 cl.32
8 (2RD)	200		Tab. 1 cl. 33	Tab. 2 cl. 33	Table 3 cl. 33	Tab. 4 cl. 33	Table 5 cl. 33	Tab. 6 cl.33	Tab. 7 cl.33
10 (2RD)	250		Table 1 cl. 34	Table 2 cl. 34	Table 3 cl. 34	Tab. 4 cl. 34	Table 5 cl. 34	Tab. 6 cl.34	Tab. 7 cl.34
12 (2RD)	300		Table 1 cl. 35	Table 2 cl. 35	Table 3 cl. 35	Tab. 4 cl. 35	Table 5 cl. 35	Tab. 6 cl.35	Tab. 7 cl.35

GUIDE FOR SELECTION THE CONNECTION TYPE FOR LINE PIPES AND SHAPED PRODUCTS

	Nominal ID, mm	Nominal pressure, MPa												
		3,4	4,0	5,5	6,9	8,6	10,3	12,1	13,8	15,5	17,2	19,0	20,7	24,1
Anhydryde (operating temperature 65°C)	50,8										P		P	
	61,7		P						P	P	P		P	
	76,2		P				P	P	P	P	P	P	P	
	95,3		P	P		P	P	P	P	P	P	P	P	
	99,3		M			M								
	139,7		P	P	P	P	P	P	P					
	148,6		M		M	M								
	196,6		M	M	M	M								
	202,7			P	P	P	P	P						
	249,9	M	M	M	M	M								
	300	M	M	M	M	M								
Aromatic amine (operating temperature 100°C)	47,8										P			
	50,8						P	P	P	P				
	56,6									P	P			
	61,7		P			P	P	P	P					
	69,1									P	P			
	76,2		P		P	P	P	P	P					
	85,1										P			
	95,3		P	P	P	P	P	P	P	P				
	99,3		M		M	M								
	139,7	P	P	P	P	P	P	P						
	148,6		M	M	M	M								
	196,6	M	M	M	M	M								
	202,7	P	P	P	P	P	P							
	249,9	M	M	M	M	M								
	300	M		M	M	M								

M - mechanical with sealing ring 2-4TH + O-ring
P - conical self-sealing thread 8RD

Standard pipe lengths with 8RD connection

Thread nominal sixe, inch	ID, mm	Length of oil-well and core-shell pipes with 8 RD coupling joint, mm	Length of line pipe with 8 RD socket connection, mm
2⅜	47,8	9600	10 000
	50,8	9420	
2⅞	56,6	9600	10 000
	61,7	9420	
3½	69,1; 76,2	9420	10 000
4½	85,1; 95,3	9300	10 000
5½	120,4	9300	10 000
6⅝	139,7	9300	10 000
7	-	9300	10 000
9⅝	202,7	9300	10 000

Standard lengths for pipes with 2-4RD+0-ring connection

Thread nominal sixe, inch	Length of line pipe with 4RD+0-ring socket connection, mm	Length of line pipe with 2RD+0-ring socket connection, mm
4	10 000	-
6	10 000	-
8	-	9300
10	-	9300
12	-	9300

Standard sizes of fiberglass pipes (DN) of similar standard sizes of steel pipes according to GOST 8734 and GOST 10704

Fiberglass pipes nominal diameter(DN)	Steel pipes OD according to GOST 8734 Standard, GOST 10704 Standard
50	60
60	73
80	89
100	114
150	159
200	219
250	273
300	325