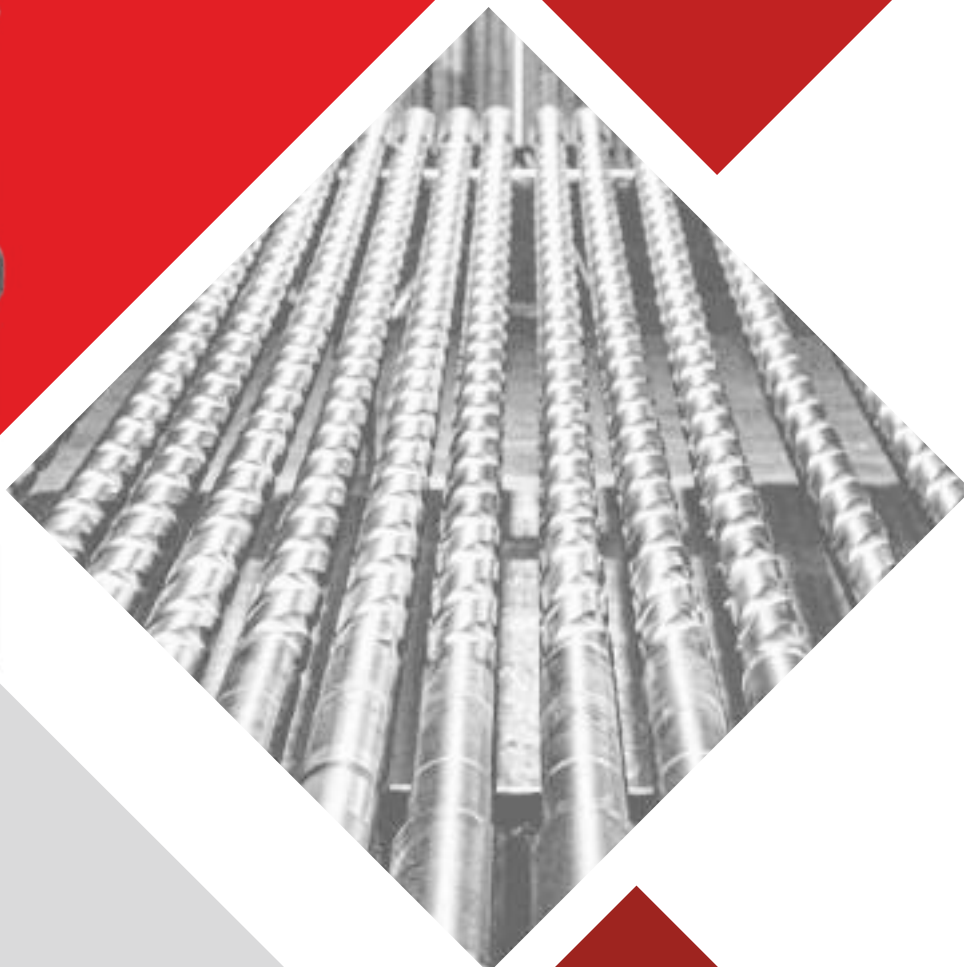




CATALOGUE
OILFIELD
AND DRILLING EQUIPMENT

MOT VILIKHA
CIVIL ENGINEERING COMPANY



**METALLURGICAL
PRODUCTS**

FORGINGS

CLOSED DIE FORGINGS

LONG PRODUCTS

CASTINGS



**OILFIELD AND DRILLING
EQUIPMENT**

SUCKER RODS

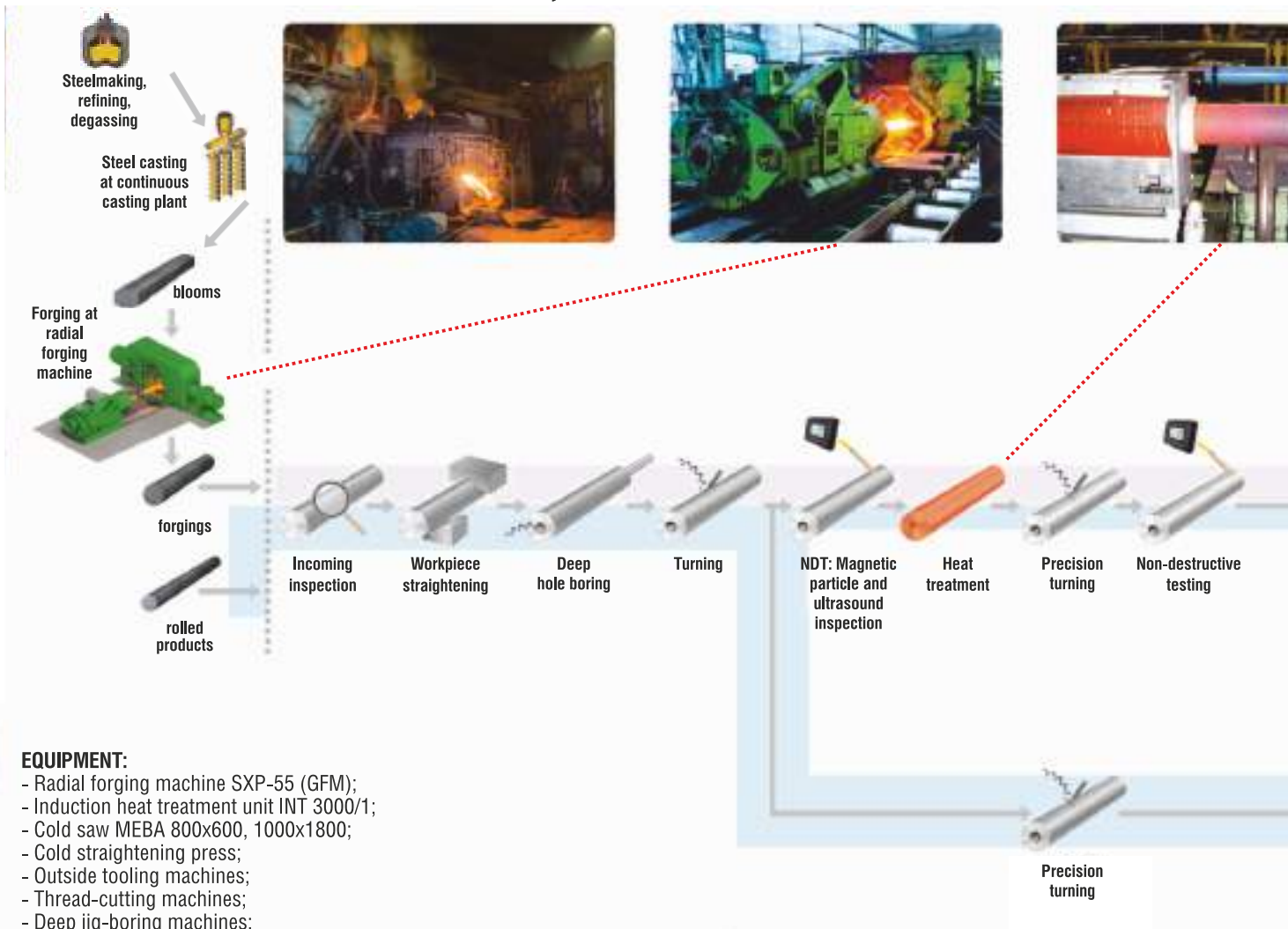
**DRILL COLLARS, HWDP
AND KELLYS**

SUBS AND CONNECTIONS

COMPLETE PRODUCTION CYCLE:
FROM STEEL MAKING
TO RELEASE OF FINISHED PRODUCTS

OILFIELD AND DRILLING EQUIPMENT PROCESS FLOW

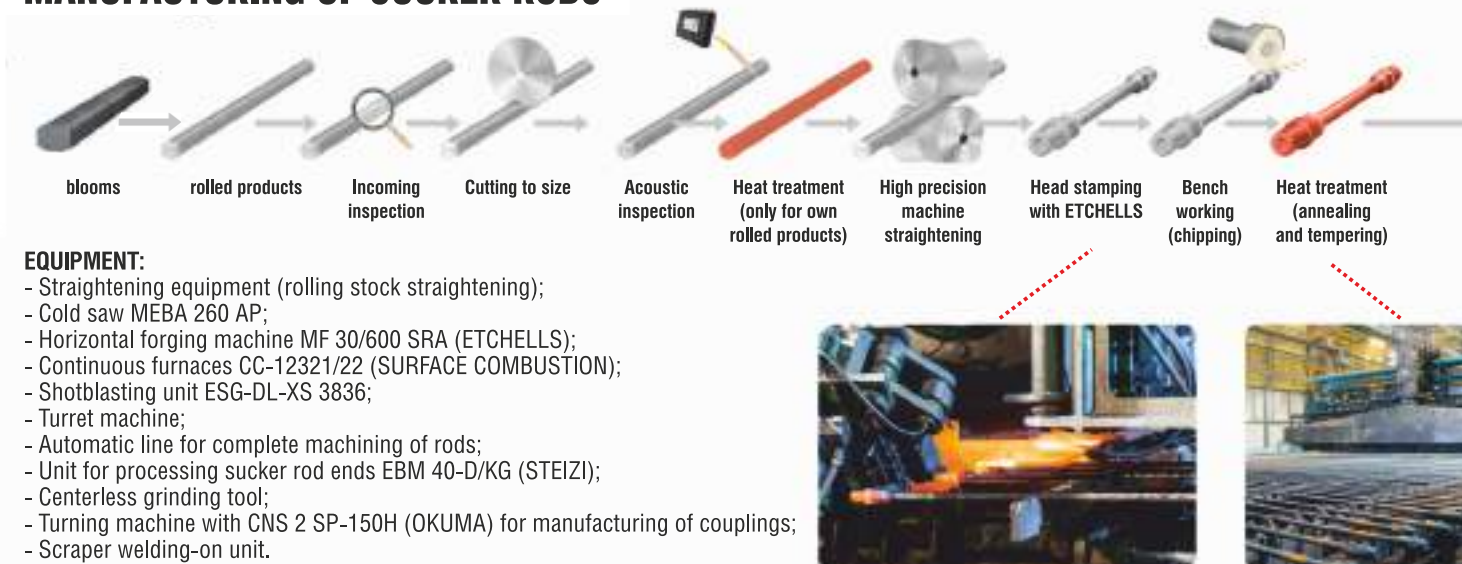
MANUFACTURING OF DRILL COLLARS, HEAVY WEIGHT DRILL PIPES AND KELLYS



EQUIPMENT:

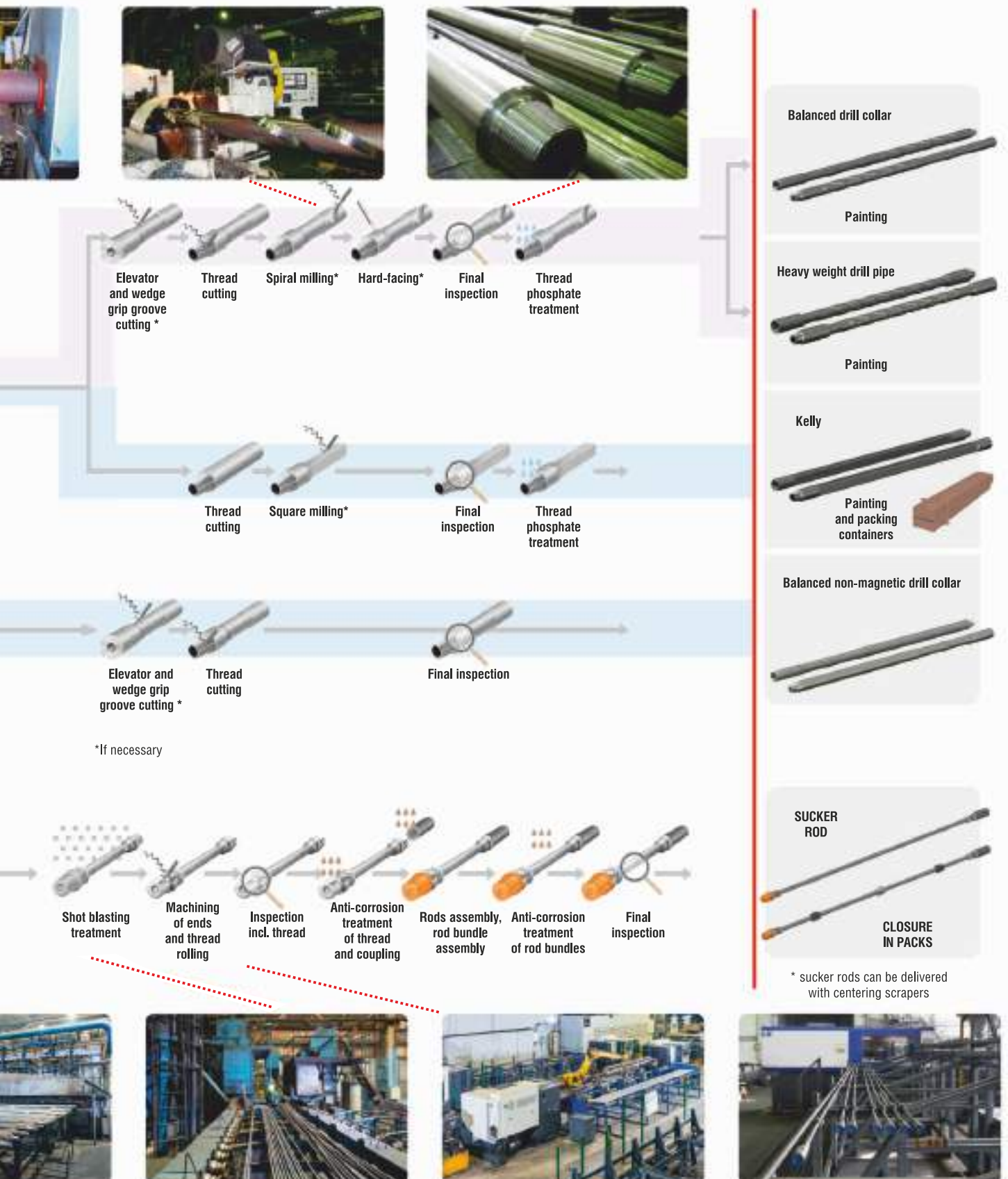
- Radial forging machine SXP-55 (GFM);
- Induction heat treatment unit INT 3000/1;
- Cold saw MEBA 800x600, 1000x1800;
- Cold straightening press;
- Outside tooling machines;
- Thread-cutting machines;
- Deep jig-boring machines;
- Dedicated milling machines with NC (milling of spirals and edges).

MANUFACTURING OF SUCKER RODS



EQUIPMENT:

- Straightening equipment (rolling stock straightening);
- Cold saw MEBA 260 AP;
- Horizontal forging machine MF 30/600 SRA (ETCHELLS);
- Continuous furnaces CC-12321/22 (SURFACE COMBUSTION);
- Shotblasting unit ESG-DL-XS 3836;
- Turret machine;
- Automatic line for complete machining of rods;
- Unit for processing sucker rod ends EBM 40-D/KG (STEIZI);
- Centerless grinding tool;
- Turning machine with CNS 2 SP-150H (OKUMA) for manufacturing of couplings;
- Scraper welding-on unit.



OIL PRODUCTION EQUIPMENT

OVER 60 YEARS OF SUCKER ROD MANUFACTURING

SUCKER RODS

Intended for transmission of movement from surface drive to borehole plunger or screw pumps



ADVANTAGES:

- The product is API-licensed and meets global standards
- The manufacturing process is fully automated (equipment of leading global producer is used: SURFACE COMBUSTION furnaces, ETCHHELLS forging line, STEZI and OKUMA processing centers), ensuring consistent quality of the finished product.
- Use of own long products manufactured from high-quality steel grades with superior performance characteristics enables the full cycle of sucker rod production.
- Advanced strength and anti-corrosion properties.
- Sucker rods can be optionally equipped with centering scrapers.
- Urgent orders are accepted, delivery timing is stable.
- The products are recognized at the oil producing sites of the CIS countries and beyond, including such loyal customers of the company as PJSC TATNEFT, PJCS LUKOIL, PJSC NK ROSNEFT.

Technical Specification	
Regulatory documents	TS 3665-020-48416997-2003, 11B API
Specific diameter of rod, mm (inches)	16 (5/8), 19 (3/4), 22 (7/8), 25 (1)
Strength class	K, C, D D _{super} – strength properties 1.4 times higher than D category D _{spec} – for operation in the most demanding conditions. Have high fatigue strength in corrosive environment. Hardening method – heat treatment with further processing with a shot blasting unit
Length, mm	от 600 до 9 140
Steel grades	40ХГМА, 15Х2ГМФ and other high quality alloyed steels. 100 % blanks undergo ultrasonic incoming examination.

Delivery options:

- Heavy weight sucker rod applicable in forming a “heavy bottom” and improving rod string stability in curved wells and high viscosity wells;
- Sucker rods manufactured of high-alloy, corrosion resistant rolled products;
- Sucker rods with centralizers.

SUCKER RODS WITH SCRAPERS AND CENTRALIZERS

For oil production using sucker-rod plunger and screw pumps.



Advantages of equipping sucker rods with centralizers and scrapers:

- Protection of tubing, sucker rods and sucker-rod couplings from excessive wear.
- Cleaning of sucker rods and tubing from asphaltene-resin-paraffin deposits.
- Centering of sucker rods in a well.

Technical Specification of Centralizers	
Regulatory documents	TS 3665-020-48416997-2003
Design options	– Fixed centering scrapers – Floating scrapers – Centralizers for screw pumps – inter-coupling centralizers for screw pumps
Material	High-strength polyamide-reinforced glass
Stability to corrosion	Any reservoir conditions, including hydrogen sulfide environments, with temperature up to +110 °C
Friction coefficients:	
– Static	0,15
– Dynamic	0,11
Setting shear strength, t	2... 2,2
Scraper compression strength	8,8... 12,7

CONNECTION AND ADAPTER COUPLINGS

Intended for connection of sucker rods between one another.



Technical Specification	
Regulatory documents	TS 3665-020-48416997-2003
Outer diameter, mm	– Full-size: 60.3; 55.6; 50.8; 46; 41.3; 38,1 – Small diameter: 50.8; 41,3; 38,1; 31,8
Outer surface wear-proof coating	– Heat-treated, no coating – T – Hardened with high-frequency currents - S
Steel grades	Structural and alloyed steels
Adapter couplings	16x19; 19x22; 22x25; 25x29

OIL PRODUCTION EQUIPMENT

POLISHED RODS

For transmission of movement from surface drive to borehole plunger or screw pumps.



Technical Specification	
Regulatory documents	TS 3665-020-48416997-2003
Specific diameter, mm	25, 32, 38
Length, mm	2 438 – 10 976
Standard size of attached rod, mm (inches)	16 (5/8), 19 (3/4), 22 (7/8), 25 (1), 29 (1 1/8)

Hardening method – heat treatment. Optional corrosion-resistant coating.

POLISHED ROD CLAMP

For clamping polished rod body and suspending sucker-rod string.

Technical Specification	
Regulatory documents	TS 3665-020-48416997-2003
Specific diameter of clamped rods, mm	25, 32, 38
Loading capacity, kN (tf)	100 (10)
Dimensions, mm	107 x 115
Weight, kg	4,5

SUCKER ROD MANUFACTURING DEVELOPMENT

Robot-assisted sucker-rod end treatment section



Sucker-rod scraper weld-on unit



DRILL COLLARS AND KELLYS

BDC

BNMDC

HWDP

FLEX

SK

STSK

HWDP

HWDPNM

BDC
BNMDC

HWDP
FLEX

SK
STSK

BDC – balanced drill collar
BNMDC – balanced non-magnetic drill collar
HWDP – heavy weight drill pipe
FLEX – heavy weight non-magnetic drill pipe
HWDP – heavy weight adjustment drill pipe
HWDPNM – heavy weight non-magnetic adjustment pipe
SK – square kelly
STSK – split-type square kelly

- High quality of products is confirmed by API certificates.
- Use of in-house forged blanks manufactured from superior steel grades: 40XГМА, 45XГМА, 40XH2MA, 40X2H2MA.
- Possibility to manufacture products after customer drawings taking into account unique operation conditions.
- High balance (for best performance in rotor and horizontal drilling), strength and concentricity of connections.
- Possibility to install RFID tags.

IMPLEMENTED TECHNOLOGY



Hard-facing



PREMIUM class threaded connections



28m split-type kellys



Pipes with inner polymer coating

DRILLING EQUIPMENT

BDC – balanced drill collar

Intended for axial loading of the drilling bit and increasing drill string stiffness. BDC with spiral grooves are used for drilling of deep wells in order to mitigate the possibility of tool sticking caused by reduction of the area of contact between the drilling collar string contact with the well walls.



Technical Specification	
Regulatory documents	TS 3 RG 200-2003, API Spec 7-1
Length, mm	4 500... 9 450
Types of BDC	A – smooth, without recess Б – slip and elevator recess Л – elevator recess С – slip and elevator recess, spiral grooves СЛ – elevator recess and spiral grooves СМ – slip recess and spiral grooves ЕС – without recess, spiral grooves /1 – hard-faced ВП – inner polymer coating

DRILL COLLARS MANUFACTURING UPGRADE

■ Thread cutting machine tool commissioned.



Collar designation	Outer Ø		Inner Ø		Ø Elevator groove	Ø Wedge grip groove	Thread type		Type B linear meter weight, kg/m	Type C linear meter weight, kg/m	Maximum allowable makeup torque without unloading of thread grooves, kN x m	Maximum allowable makeup torque with unloading of thread grooves, kN x m
	mm	inch	mm	inch			GOST 28487-2018	API Spec 7-2				
BDC-79	79	3 $\frac{1}{8}$	32	1 $\frac{1}{4}$	65	73	3-65	NC23	30,6	29,8	4,5	-
BDC-89	89	3 $\frac{1}{2}$	32	1 $\frac{1}{4}$	73	82	3-73	NC26	40,7	39,1	6,6 ^{+0,7}	-
	89	3 $\frac{1}{2}$	38	1 $\frac{1}{2}$	73	82	3-73	NC26	38,4	37,5	6 ^{+0,6}	-
BDC-95	95	3 $\frac{3}{4}$	32	1 $\frac{1}{4}$	73	82	3-76	2 $\frac{1}{2}$ REG	47	44,9	7,3 ^{+0,7}	-
	95	3 $\frac{3}{4}$	38	1 $\frac{1}{2}$	73	82	3-76	2 $\frac{1}{2}$ REG	44,2	42,5	6 ^{+0,7}	-
BDC-105	105	4 $\frac{1}{8}$	32	1 $\frac{1}{4}$	89	102	3-86	NC31	59,2	56,9	10,4 ⁺¹	-
	105	4 $\frac{1}{8}$	38	1 $\frac{1}{2}$	89	102	3-86	NC31	55,9	54,2	10,4 ⁺¹	-
	105	4 $\frac{1}{8}$	46	1 $\frac{13}{16}$	89	102	3-86	NC31	52,9	53	10 ⁺¹	-
	105	4 $\frac{1}{8}$	51	2	89	102	3-86	NC31	50,4	45,5	9 ^{+0,9}	-
BDC-108	108	4 $\frac{1}{4}$	32	1 $\frac{1}{4}$	89	102	3-86	NC31	63,1	61	9 ^{+0,9}	-
	108	4 $\frac{1}{4}$	38	1 $\frac{1}{2}$	89	102	3-86	NC31	60,6	57,8	11,5 ^{+1,2}	-
	108	4 $\frac{1}{4}$	46	1 $\frac{13}{16}$	89	102	3-86	NC31	56,7	53,6	10 ⁺¹	-
	108	4 $\frac{1}{4}$	51	2	89	102	3-86	NC31	54,4	50,8	9 ^{+0,9}	-
BDC-121	121	4 $\frac{3}{4}$	46	1 $\frac{13}{16}$	102	114	3-94	NC35	73,8	71,3	15 ^{+1,5}	14 ^{+1,4}
	121	4 $\frac{3}{4}$	51	2	102	114	3-94	NC35	71	68,9	14 ^{+1,4}	13 ^{+1,3}
	121	4 $\frac{3}{4}$	57	2 $\frac{1}{4}$	102	114	3-94	NC35	66,8	65,1	12 ^{+1,2}	11 ^{+1,1}
	121	4 $\frac{3}{4}$	46	1 $\frac{13}{16}$	102	114	3-102	NC38	73,7	71	14,5 ^{+1,5}	13,5 ^{+1,4}
	121	4 $\frac{3}{4}$	51	2	102	114	3-102	NC38	70,9	68,9	14,5 ^{+1,5}	13,5 ^{+1,4}
	121	4 $\frac{3}{4}$	57	2 $\frac{1}{4}$	102	114	3-102	NC38	66,7	64,3	14,5 ^{+1,5}	13,5 ^{+1,4}
BDC-127	127	5	46	1 $\frac{13}{16}$	114	114	3-94	NC35	83,3	80,2	15 ^{+1,5}	14 ^{+1,4}
	127	5	51	2	114	114	3-94	NC35	80,5	77,4	14 ^{+1,4}	13 ^{+1,3}
	127	5	57	2 $\frac{1}{4}$	114	114	3-94	NC35	76,3	73,2	12 ^{+1,2}	11 ^{+1,1}
	127	5	46	1 $\frac{13}{16}$	114	114	3-102	NC38	83,2	80,1	18,5 ^{+1,9}	16,5 ^{+1,7}
	127	5	51	2	114	114	3-102	NC38	80,4	79	18 ^{+1,8}	16 ^{+1,6}
	127	5	57	2 $\frac{1}{4}$	114	114	3-102	NC38	76,1	74,1	16,5 ^{+1,7}	14,5 ^{+1,5}
	127	5	46	1 $\frac{13}{16}$	114	114	3-108	NC40	83,1	80	18,5 ^{+1,9}	16,5 ^{+1,7}
	127	5	51	2	114	114	3-108	NC40	80,3	79	18 ^{+1,8}	16 ^{+1,6}
BDC-133	133	5 $\frac{1}{4}$	46	1 $\frac{13}{16}$	114	114	3-102	NC38	93,3	89,3	19,5 ⁺²	17,5 ^{+1,8}
	133	5 $\frac{1}{4}$	51	2	114	114	3-102	NC38	90,3	86,4	18 ^{+1,7}	16 ^{+1,5}
	133	5 $\frac{1}{4}$	57	2 $\frac{1}{4}$	114	114	3-102	NC38	89,2	85,9	16,5 ^{+1,7}	14,5 ^{+1,5}
	133	5 $\frac{1}{4}$	46	1 $\frac{13}{16}$	114	114	3-108	NC40	93,1	89,1	20 ⁺²	18 ^{+1,8}
	133	5 $\frac{1}{4}$	51	2	114	114	3-108	NC40	90,3	81	20 ⁺²	18 ^{+1,8}
	133	5 $\frac{1}{4}$	57	2 $\frac{1}{4}$	114	114	3-108	NC40	86,1	73	20 ⁺²	18 ^{+1,8}

DRILLING EQUIPMENT

Collar designation	Outer Ø		Inner Ø		Ø Elevator groove	Ø Wedge grip groove	Thread type		Type B linear meter weight, kg/m	Type C linear meter weight, kg/m	Maximum allowable makeup torque without unloading of thread grooves, kN x m	Maximum allowable makeup torque with unloading of thread grooves, kN x m
	mm	inch	mm	inch	mm	mm	GOST 28487-2018	API Spec 7-2				
BDC-146	146	5¾	46	1⅜ ₁₆	130	140	3-108	NC40	113,7	109,5	24,5 ^{+2,5}	21,5 ^{+2,2}
	146	5¾	51	2	130	140	3-108	NC40	110,9	106,7	23 ^{+2,3}	20 ⁺²
	146	5¾	57	2¼	130	140	3-108	NC40	106,7	102,5	21,5 ^{+2,2}	18,5 ^{+1,9}
	146	5¾	51	2¼	130	140	3-118	NC44	110,9	106,7	27 ^{+2,7}	23 ^{+2,3}
	146	5¾	57	2¼	130	140	3-118	NC44	106,7	102,5	27 ^{+2,7}	23 ^{+2,3}
	146	5¾	71	2⅜ ₁₆	130	140	3-118	NC44	95,7	91,5	23 ^{+2,3}	20 ⁺²
	146	5¾	51	2	130	140	3-121	4½FH	117	106,7	26 ^{+2,6}	22 ^{+2,2}
	146	5¾	57	2¼	130	140	3-121	4½FH	106,8	104	26 ^{+2,6}	22 ^{+2,2}
	146	5¾	71	2⅜ ₁₆	130	140	3-121	4½FH	95,8	93,1	22,5 ^{+2,3}	19,5 ⁺²
	146	5¾	76	3	130	140	3-121	4½FH	91,5	87,2	23 ^{+2,3}	20 ⁺²
	146	5¾	57	2¼	130	140	3-122	NC46	106,6	102	24,5 ^{+2,5}	21,5 ^{+2,2}
	146	5¾	71	2⅜ ₁₆	130	140	3-122	NC46	95,6	90,4	24,5 ^{+2,5}	21,5 ^{+2,2}
	146	5¾	76	3	130	140	3-122	NC46	91,3	87,2	24,5 ^{+2,5}	21,5 ^{+2,2}
BDC-152	152	6	46	1⅜ ₁₆	130	140	3-108	NC40	125,2	120,2	25 ^{+2,5}	22 ^{+2,2}
	152	6	51	2	130	140	3-108	NC40	122,4	117,4	23,5 ^{+2,4}	20,5 ^{+2,1}
	152	6	57	2¼	130	140	3-108	NC40	118,2	113,2	21,5 ^{+2,2}	18,5 ^{+1,9}
	152	6	51	2	130	140	3-118	NC44	122,3	117,3	30,5 ^{+3,1}	27,5 ^{+2,8}
	152	6	57	2¼	130	140	3-118	NC44	118,1	113,1	28,5 ^{+2,9}	25,5 ^{+2,6}
	152	6	71	2⅜ ₁₆	130	140	3-118	NC44	107,1	102,2	23 ^{+2,3}	20 ⁺²
	152	6	51	2	130	140	3-121	4½FH	122,5	117,4	31,5 ^{+3,2}	28,5 ^{+2,9}
	152	6	57	2¼	130	140	3-121	4½FH	118,3	113,2	30 ⁺³	27 ^{+2,7}
	152	6	71	2⅜ ₁₆	130	140	3-121	4½FH	107,4	102,2	25 ^{+2,5}	22 ^{+2,2}
	152	6	76	3	130	140	3-121	4½FH	103	97,9	22,5 ^{+2,3}	19,5 ⁺²
	152	6	57	2¼	130	140	3-122	NC46	118,1	102	30 ⁺³	27 ^{+2,7}
	152	6	71	2⅜ ₁₆	130	140	3-122	NC46	107,1	90,3	27,5 ^{+2,8}	24,5 ^{+2,5}
	152	6	76	3	130	140	3-122	NC46	102,8	97,8	25,5 ^{+2,6}	22,5 ^{+2,3}
BDC-159	159	6¼	51	2	143	146	3-118	NC44	134,3	129,2	31 ^{+3,1}	28 ^{+2,8}
	159	6¼	57	2¼	143	146	3-118	NC44	130,1	125	29 ^{+2,9}	26 ^{+2,6}
	159	6¼	71	2⅜ ₁₆	143	146	3-118	NC44	119,1	114	23 ^{+2,3}	20 ⁺²
	159	6¼	51	2	143	146	3-121	4½FH	134,5	129,3	32,5 ^{+3,3}	29,5 ⁺³
	159	6¼	57	2¼	143	146	3-121	4½FH	130,3	125,1	30,5 ^{+3,1}	27,5 ^{+2,8}
	159	6¼	71	2⅜ ₁₆	143	146	3-121	4½FH	119,3	114,1	25 ^{+2,5}	22 ^{+2,2}
	159	6¼	76	3	143	146	3-121	4½FH	115	109,8	23 ^{+2,3}	20 ⁺²
	159	6¼	57	2¼	143	146	3-122	NC46	130,3	125	33,5 ^{+3,4}	30,5 ^{+3,1}
	159	6¼	71	2⅜ ₁₆	143	146	3-122	NC46	119,1	120,3	28 ^{+2,8}	25 ^{+2,5}

Collar designation	Outer Ø		Inner Ø		Ø Elevator groove	Ø Wedge grip groove	Thread type		Type B linear meter weight, kg/m	Type C linear meter weight, kg/m	Maximum allowable torque without unloading of thread grooves, kN x m	Maximum allowable torque with unloading of thread grooves, kN x m
	mm	inch	mm	inch	mm	mm	GOST 28487-2018	API Spec 7-2				
BDC-159	159	6¼	76	3	143	146	3-122	NC46	114,8	109,7	26 ^{+2,6}	23 ^{+2,3}
	159	6¼	57	2¼	143	146	3-133	NC50	130	124,9	31 ^{+3,1}	28 ^{+2,8}
	159	6¼	71	2 ¹³ / ₁₆	143	146	3-133	NC50	119	113,9	31 ^{+3,1}	28 ^{+2,8}
	159	6¼	76	3	143	146	3-133	NC50	114,7	109,6	31 ^{+3,1}	28 ^{+2,8}
BDC-165	165	6½	51	2	146	152	3-118	NC44	146,5	140,4	31 ^{+3,1}	27 ^{+2,7}
	165	6½	57	2¼	146	152	3-118	NC44	142,4	136,2	29 ^{+2,9}	25 ^{+2,5}
	165	6½	71	2 ¹³ / ₁₆	146	152	3-118	NC44	131,4	125,2	23,5 ^{+2,4}	19,5 ⁺²
	165	6½	51	2	146	152	3-121	4½FH	146,8	139,9	33 ^{+3,3}	29 ^{+2,9}
	165	6½	57	2¼	146	152	3-121	4½FH	142,7	136,3	30,5 ^{+3,1}	26,5 ^{+2,7}
	165	6½	71	2 ¹³ / ₁₆	146	152	3-121	4½FH	131,7	136	25 ^{+2,5}	21 ^{+2,1}
	165	6½	76	3	146	152	3-121	4½FH	127,2	132,5	23 ^{+2,3}	19 ^{+1,9}
	165	6½	57	2¼	146	152	3-122	NC46	142,3	136,2	34 ^{+3,4}	30 ⁺³
	165	6½	71	2 ¹³ / ₁₆	146	152	3-122	NC46	131,3	125,3	28 ^{+2,8}	24 ^{+2,4}
	165	6½	76	3	146	152	3-122	NC46	127	120,8	26 ^{+2,6}	22 ^{+2,2}
	165	6½	57	2¼	146	152	3-133	NC50	143,4	136,7	38 ^{+3,8}	34 ^{+3,4}
	165	6½	71	2 ¹³ / ₁₆	146	152	3-133	NC50	131,9	125,3	38 ^{+3,8}	34 ^{+3,4}
	165	6½	76	3	146	152	3-133	NC50	128,3	121,7	36 ^{+3,6}	32 ^{+3,2}
	165	6½	76	3	146	152	3-133	NC50	128,3	121,7	36 ^{+3,6}	32 ^{+3,2}
BDC-171	171	6¾	57	2	152	159	3-122	NC46	154,8	148,4	34,3 ^{+3,4}	30 ⁺³
	171	6¾	71	2 ¹³ / ₁₆	152	159	3-122	NC46	143,7	137,4	28,5 ^{+2,9}	24,5 ^{+2,5}
	171	6¾	76	3	152	159	3-122	NC46	159,4	133,1	26 ^{+2,6}	22 ^{+2,2}
	171	6¾	57	2	152	159	3-133	NC50	159,2	148,7	45 ^{+4,5}	40 ⁺⁴
	171	6¾	71	2 ¹³ / ₁₆	152	159	3-133	NC50	148	137,6	39 ^{+3,9}	34 ^{+3,4}
	171	6¾	76	3	152	159	3-133	NC50	139,4	133,3	36 ^{+3,6}	31 ^{+3,1}
	171	6¾	80	3 ⁵ / ₃₂	152	159	3-133	NC50	135,6	129,3	34 ^{+3,4}	29 ^{+2,9}
	171	6¾	57	2	152	159	3-140	5½ REG	154,6	148,2	43 ^{+4,3}	38 ^{+3,8}
	171	6¾	71	2 ¹³ / ₁₆	152	159	3-140	5½ REG	143,6	137,2	43 ^{+4,3}	38 ^{+3,8}
	171	6¾	76	3	152	159	3-140	5½ REG	139,3	132,9	42 ^{+4,2}	37 ^{+3,7}
	171	6¾	57	2	152	159	3-147	5½ FH	154,4	148,1	35,5 ^{+3,6}	30,5 ^{+3,1}
	171	6¾	71	2 ¹³ / ₁₆	152	159	3-147	5½ FH	143,4	138	35,5 ^{+3,6}	30,5 ^{+3,1}
BDC-178	178	7	57	2¼	159	168	3-133	NC50	170,3	162,8	41 ^{+4,1}	27,5 ^{+2,8}
	178	7	71	2 ¹³ / ₁₆	159	168	3-133	NC50	158,7	150,6	35,5 ^{+3,6}	31,5 ^{+3,2}
	178	7	76	3	159	168	3-133	NC50	150	142,5	33,5 ^{+3,4}	29 ^{+2,9}
	178	7	80	3 ⁵ / ₃₂	159	168	3-133	NC50	150,7	142,5	31,5 ^{+3,2}	27,5 ^{+2,8}
	178	7	57	2¼	159	168	3-140	5½ REG	170,3	162,8	46 ^{+4,6}	42,5 ^{+4,3}
	178	7	71	2 ¹³ / ₁₆	159	168	3-140	5½ REG	158,7	150,6	41 ^{+4,1}	37 ^{+3,7}

DRILLING EQUIPMENT

Collar designation	Outer Ø		Inner Ø		Ø Elevator groove	Ø Wedge grip groove	Thread type		Type B linear meter weight, kg/m	Type C linear meter weight, kg/m	Maximum allowable makeup torque without unloading of thread grooves, kN x m	Maximum allowable makeup torque with unloading of thread grooves, kN x m
	mm	inch	mm	inch	mm	mm	GOST 28487-2018	API Spec 7-2				
BDC-178	178	7	76	3	159	168	3-140	5½ REG	150	142,5	38,5 ^{+3,9}	34,5 ^{+3,5}
	178	7	71	2 ¹³ / ₁₆	159	168	3-147	5½ FH	157,7	145,7	40 ⁺⁴	36 ^{+3,6}
	178	7	76	3	159	168	3-147	5½ FH	150	142,5	40 ⁺⁴	36 ^{+3,6}
	178	7	80	3 ⁵ / ₃₂	159	168	3-147	5½ FH	149,5	137,6	40 ⁺⁴	36 ^{+3,6}
	178	7	90	3 ⁹ / ₁₆	159	168	3-147	5½ FH	139,5	133,1	40 ⁺⁴	36 ^{+3,6}
BDC-184	184	7¼	57	2¼	168	178	3-133	NC50	182	174,6	41,5 ^{+4,2}	36,5 ^{+3,7}
	184	7¼	71	2 ¹³ / ₁₆	168	178	3-133	NC50	171	163,6	36 ^{+3,6}	31 ^{+3,1}
	184	7¼	76	3	168	178	3-133	NC50	166,7	159,3	33,5 ^{+3,4}	28,5 ^{+2,9}
	184	7¼	80	3 ⁵ / ₃₂	168	178	3-133	NC50	163	155,5	32 ^{+3,2}	27 ^{+2,7}
	184	7¼	57	2¼	168	178	3-140	5½ REG	182	174,4	46,5 ^{+4,7}	41,5 ^{+4,2}
	184	7¼	71	2 ¹³ / ₁₆	168	178	3-140	5½ REG	170,9	163,4	41 ^{+4,1}	36 ^{+3,6}
	184	7¼	76	3	168	178	3-140	5½ REG	166,6	159,1	39 ^{+3,9}	34 ^{+3,4}
	184	7¼	57	2¼	168	178	3-147	5½ FH	181,7	174,3	48 ^{+4,8}	43 ^{+4,3}
	184	7¼	71	2 ¹³ / ₁₆	168	178	3-147	5½ FH	170,7	163,3	48 ^{+4,8}	43 ^{+4,3}
	184	7¼	76	3	168	178	3-147	5½ FH	166,4	159	48 ^{+4,8}	43 ^{+4,3}
	184	7¼	57	2¼	168	178	3-149	NC56	-	-	48 ^{+4,8}	43 ^{+4,3}
	184	7¼	71	2 ¹³ / ₁₆	168	178	3-149	NC56	170,7	163,1	48 ^{+4,8}	43 ^{+4,3}
	184	7¼	76	3	168	178	3-149	NC56	166,4	158,8	47 ^{+4,7}	42 ^{+4,2}
BDC-197	197	7¾	71	2 ¹³ / ₁₆	178	189	3-147	5½ FH	199,5	191,8	53 ^{+5,3}	48 ^{+4,8}
	197	7¾	76	3	178	189	3-147	5½ FH	195,3	187,6	50,5 ^{+5,1}	45,5 ^{+4,6}
	197	7¾	80	3 ⁵ / ₃₂	178	189	3-147	5½ FH	191,5	183,8	48,5 ^{+4,9}	43,5 ^{+4,4}
	197	7¾	71	2 ¹³ / ₁₆	178	189	3-149	NC56	199,5	191,6	52,5 ^{+5,3}	47,5 ^{+4,8}
	197	7¾	76	3	178	189	3-149	NC56	195,3	187,4	50 ⁺⁵	45 ^{+4,5}
	197	7¾	80	3 ⁵ / ₃₂	178	189	3-149	NC56	191,5	183,6	47,5 ^{+4,8}	42,5 ^{+4,3}
	197	7¾	71	2 ¹³ / ₁₆	178	189	3-152	6⅝ REG	199,5	191,8	58,5 ^{+5,9}	53,5 ^{+5,4}
	197	7¾	76	3	178	189	3-152	6⅝ REG	195,3	187,6	56 ^{+5,6}	51 ^{+5,1}
	197	7¾	80	3 ⁵ / ₃₂	178	189	3-152	6⅝ REG	191,5	183,8	54 ^{+5,4}	49 ^{+4,9}
BDC-203	203	8	71	2 ¹³ / ₁₆	178	194	3-147	5½ FH	214,9	206,1	53,5 ^{+5,4}	48,5 ^{+4,9}
	203	8	76	3	178	194	3-147	5½ FH	210,6	201,7	51 ^{+5,1}	46 ^{+4,6}
	203	8	80	3 ⁵ / ₃₂	178	194	3-147	5½ FH	204,9	197,9	49 ^{+4,9}	44 ^{+4,4}
	203	8	71	2 ¹³ / ₁₆	178	194	3-149	5½ FH	214,9	205,8	52,5 ^{+5,3}	47,5 ^{+4,8}
	203	8	76	3	178	194	3-149	5½ FH	210,6	201,4	50 ^{+5,0}	45 ^{+4,5}
	203	8	80	3 ⁵ / ₃₂	178	194	3-149	5½ FH	206,9	197,6	48 ^{+4,8}	43 ^{+4,3}
	203	8	71	2 ¹³ / ₁₆	178	194	3-152	6⅝ REG	214,9	204,5	58 ^{+5,8}	53 ^{+5,3}
	203	8	76	3	178	194	3-152	6⅝ REG	210,6	202,2	56 ^{+5,6}	51 ^{+5,1}

Collar designation	Outer Ø		Inner Ø		Ø Elevator groove	Ø Wedge grip groove	Thread type		Type B linear meter weight, kg/m	Type C linear meter weight, kg/m	Maximum allowable makeup torque without unloading of thread grooves, kN x m	Maximum allowable makeup torque with unloading of thread grooves, kN x m
	mm	inch	mm	inch	mm	mm	GOST 28487-2018	API Spec 7-2				
BDC-203	203	8	80	3 ⁵ / ₃₂	178	194	3-152	6% REG	206,9	196,3	54 ^{+5,4}	49 ^{+4,9}
	203	8	90	3	178	194	3-152	6% REG	196,2	187,4	48 ^{+4,8}	43 ^{+4,3}
	203	8	71	2 ¹³ / ₁₆	178	194	3-163	NC61	214,5	205,6	64 ^{+6,4}	59 ^{+5,9}
	203	8	76	3	178	194	3-163	NC61	210,2	201,1	64 ^{+6,4}	59 ^{+5,9}
	203	8	80	3 ¹ / ₃	178	194	3-163	NC61	206,5	197,4	64 ^{+6,4}	59 ^{+5,9}
	203	8	71	2 ¹³ / ₁₆	178	194	3-171	6% FH	214,7	206,5	55 ^{+5,5}	50 ⁺⁵
	203	8	76	3	178	194	3-171	6% FH	210,4	202	55 ^{+5,5}	50 ⁺⁵
	203	8	80	3 ¹ / ₃	178	194	3-171	6% FH	206,6	198,3	55 ^{+5,5}	50 ⁺⁵
	203	8	90	3	178	194	3-171	6% FH	196,1	188	55 ^{+5,5}	50 ⁺⁵
	203	8	100	3 ¹⁵ / ₁₆	178	194	3-171	6% FH	185,2	176,5	55 ^{+5,5}	50 ⁺⁵
BDC-210	210	8 ¹ / ₄	71	2 ¹³ / ₁₆	178	194	3-152	6% REG	230,7	221,7	59 ^{+5,9}	54 ^{+5,4}
	210	8 ¹ / ₄	76	3	178	194	3-152	6% REG	226,5	217,4	56,5 ^{+5,7}	51,5 ^{+5,2}
	210	8 ¹ / ₄	80	3 ⁵ / ₃₂	178	194	3-152	6% REG	222,7	213,1	54,5 ^{+5,5}	49 ^{+4,9}
	210	8 ¹ / ₄	71	2 ¹³ / ₁₆	178	194	3-163	NC61	230,3	221	72,5 ^{+7,3}	67,5 ^{+6,8}
	210	8 ¹ / ₄	76	3	178	194	3-163	NC61	226,1	216,8	70 ⁺⁷	65 ^{+6,5}
	210	8 ¹ / ₄	80	3 ⁵ / ₃₂	178	194	3-163	NC61	222,3	213	67,5 ^{+6,8}	62,5 ^{+6,3}
BDC-216	216	8 ¹ / ₂	71	2 ¹³ / ₁₆	194	203	3-163	NC61	246,4	237	73 ^{+7,3}	68 ^{+6,8}
	216	8 ¹ / ₂	76	3	194	203	3-163	NC61	242,1	232,7	70,5 ^{+7,1}	65,5 ^{+6,6}
	216	8 ¹ / ₂	80	3 ⁵ / ₃₂	194	203	3-163	NC61	238,4	229	68 ^{+6,8}	63 ^{+6,3}
	216	8 ¹ / ₂	76	3	194	203	3-177	7% REG	242,2	232,8	73 ^{+7,3}	68 ^{+6,8}
	216	8 ¹ / ₂	80	3 ⁵ / ₃₂	194	203	3-177	7% REG	238,5	229,1	73 ^{+7,3}	68 ^{+6,8}
	216	8 ¹ / ₂	90	3 ⁹ / ₁₆	194	203	3-177	7% REG	227	218,5	73 ^{+7,3}	68 ^{+6,8}
	216	8 ¹ / ₂	100	3 ¹⁵ / ₁₆	194	203	3-177	7% REG	217	207,6	73 ^{+7,3}	68 ^{+6,8}
BDC-229	229	9	71	2 ¹³ / ₁₆	194	219	3-152	6% REG	280,3	270,6	61 ^{+6,1}	56 ^{+5,6}
	229	9	76	3	194	219	3-152	6% REG	276,1	266	58 ^{+5,8}	53 ^{+5,3}
	229	9	80	3 ⁵ / ₃₂	194	219	3-152	6% REG	272,3	261,6	56 ^{+5,6}	51 ^{+5,1}
	229	9	71	2 ¹³ / ₁₆	194	219	3-163	NC61	279,8	268,9	74 ^{+7,4}	69 ^{+6,9}
	229	9	76	3	194	219	3-163	NC61	275,6	264,6	71,5 ^{+7,2}	66,5 ^{+6,7}
	229	9	80	3 ⁵ / ₃₂	194	219	3-163	NC61	271,8	269,9	69 ^{+6,9}	64 ^{+6,4}
	229	9	71	2 ¹³ / ₁₆	194	219	3-171	6% FH	280,1	269,5	90 ⁺⁹	85 ^{+8,5}
	229	9	76	3	194	219	3-171	6% FH	275,9	265,2	87,5 ^{+8,8}	82,5 ^{+8,3}
	229	9	80	3 ⁵ / ₃₂	194	219	3-171	6% FH	272,1	261,5	85 ^{+8,5}	80 ⁺⁸
	229	9	90	3 ⁹ / ₁₆	194	219	3-171	6% FH	261,6	250,8	78 ^{+7,8}	73 ^{+7,3}
	229	9	100	3 ¹⁵ / ₁₆	194	219	3-171	6% FH	250,7	239,9	70 ⁺⁷	65 ^{+6,5}
	229	9	76	3	194	219	3-177	7% REG	275,7	264,7	95 ^{+9,5}	90 ⁺⁹

DRILLING EQUIPMENT

Collar designation	Outer Ø		Inner Ø		Ø Elevator groove	Ø Wedge grip groove	Thread type		Type B linear meter weight, kg/m	Type C linear meter weight, kg/m	Maximum allowable makeup torque without unloading of thread grooves, kN x m	Maximum allowable makeup torque with unloading of thread grooves, kN x m
	mm	inch	mm	inch	mm	mm	GOST 28487-2018	API Spec 7-2				
BDC-229	229	9	80	3 ⁵ / ₃₂	194	219	3-177	7 ⁸ / ₈ REG	271,9	261	92 ^{+9,2}	87 ^{+8,7}
	229	9	90	3 ⁹ / ₁₆	194	219	3-177	7 ⁸ / ₈ REG	261,4	250,3	85 ^{+8,5}	80 ⁺⁸
	229	9	71	2 ¹³ / ₁₆	194	219	3-185	NC70	279,2	268,2	88 ^{+8,8}	83 ^{+8,3}
	229	9	76	3	194	219	3-185	NC70	275	264	88 ^{+8,8}	83 ^{+8,3}
	229	9	80	3 ⁵ / ₃₂	194	219	3-185	NC70	271,2	260,3	88 ^{+8,8}	83 ^{+8,3}
	229	9	90	3 ⁹ / ₁₆	194	219	3-185	NC70	260,7	241,7	88 ^{+8,8}	83 ^{+8,3}
	229	9	100	3 ¹⁵ / ₁₆	194	219	3-185	NC70	249,8	238,9	88 ^{+8,8}	83 ^{+8,3}
BDC-241	241	9 ¹ / ₂	71	2 ¹³ / ₁₆	219	229	3-171	6 ⁵ / ₈ FH	316	304,9	91 ^{+9,1}	86 ^{+8,6}
	241	9 ¹ / ₂	76	3	219	229	3-171	6 ⁵ / ₈ FH	311,7	290,1	88 ^{+8,8}	83 ^{+8,3}
	241	9 ¹ / ₂	80	3 ⁵ / ₃₂	219	229	3-171	6 ⁵ / ₈ FH	308	288,2	86 ^{+8,6}	81 ^{+8,1}
	241	9 ¹ / ₂	90	3 ⁹ / ₁₆	219	229	3-171	6 ⁵ / ₈ FH	297,4	275,6	79 ^{+7,9}	74 ^{+7,4}
	241	9 ¹ / ₂	100	3 ¹⁵ / ₁₆	219	229	3-171	6 ⁵ / ₈ FH	286,5	264,3	72 ^{+7,2}	67 ^{+6,7}
	241	9 ¹ / ₂	76	3	219	229	3-177	7 ⁸ / ₈ REG	311,5	302	95,5 ^{+9,6}	83 ^{+8,3}
	241	9 ¹ / ₂	80	3 ⁵ / ₃₂	219	229	3-177	7 ⁸ / ₈ REG	307,8	298,2	93 ^{+9,3}	88 ^{+8,8}
	241	9 ¹ / ₂	90	3 ⁹ / ₁₆	219	229	3-177	7 ⁸ / ₈ REG	297,2	287,5	86 ^{+8,6}	81 ^{+8,1}
	241	9 ¹ / ₂	100	3 ¹⁵ / ₁₆	219	229	3-177	7 ⁸ / ₈ REG	286,3	276,6	78,5 ^{+7,9}	73,5 ^{+7,4}
	241	9 ¹ / ₂	71	2 ¹³ / ₁₆	219	229	3-185	NC70	315	303,7	113 ^{+11,3}	108 ^{+10,8}
	241	9 ¹ / ₂	76	3	219	229	3-185	NC70	310,7	299,5	111 ^{+11,1}	106 ^{+10,6}
	241	9 ¹ / ₂	80	3 ⁵ / ₃₂	219	229	3-185	NC70	307	295,7	108 ^{+10,8}	103 ^{+10,3}
	241	9 ¹ / ₂	90	3 ⁹ / ₁₆	219	229	3-185	NC70	296,4	285,2	101 ^{+10,1}	96 ^{+9,6}
	241	9 ¹ / ₂	100	3 ¹⁵ / ₁₆	219	229	3-185	NC70	285,5	274,3	93 ^{+9,3}	88 ^{+8,8}
	248	9 ³ / ₄	71	2 ¹³ / ₁₆	219	235	3-185	NC70	333,4	320,5	114,5 ^{+11,5}	109,5 ⁺¹¹
BDC-248	248	9 ³ / ₄	76	3	219	235	3-185	NC70	329,2	317,8	111,5 ^{+11,2}	106,5 ^{+10,7}
	248	9 ³ / ₄	80	3 ⁵ / ₃₂	219	235	3-185	NC70	325,4	314	109 ^{+10,9}	104 ^{+10,4}
	248	9 ³ / ₄	90	3 ⁹ / ₁₆	219	235	3-185	NC70	314,9	303,5	102 ^{+10,2}	97 ^{+9,7}
	248	9 ³ / ₄	100	3 ¹⁵ / ₁₆	219	235	3-185	NC70	304	292,6	94 ^{+9,4}	89 ^{+8,9}
	254	10	76	3	219	245	3-171	6 ⁵ / ₈ FH	349,5	336,7	89,5 ⁺⁹	84,5 ^{+8,5}
BDC-254	254	10	80	3 ⁵ / ₃₂	219	245	3-171	6 ⁵ / ₈ FH	345,8	333	87 ^{+8,7}	82 ^{+8,2}
	254	10	90	3 ⁹ / ₁₆	219	245	3-171	6 ⁵ / ₈ FH	335,2	316,9	80 ^{+8,0}	75 ^{+7,5}
	254	10	100	3 ¹⁵ / ₁₆	219	245	3-171	6 ⁵ / ₈ FH	324,3	312,6	72,5 ^{+7,3}	67,5 ^{+6,8}
	254	10	71	2 ¹³ / ₁₆	219	245	3-185	NC70	352,7	339,7	115 ^{+11,5}	110 ⁺¹¹
	254	10	76	3	219	245	3-185	NC70	348,4	335,4	112 ^{+11,2}	107 ^{+10,7}
	254	10	80	3 ⁵ / ₃₂	219	245	3-185	NC70	344,7	331,7	110 ⁺¹¹	105 ^{+10,5}
	254	10	90	3 ⁹ / ₁₆	219	245	3-185	NC70	334,1	321,2	102,5 ^{+10,3}	97,5 ^{+9,8}
	254	10	100	3 ¹⁵ / ₁₆	219	245	3-185	NC70	323,3	310,3	94,5 ^{+9,5}	89,5 ⁺⁹
	254	10	100	3 ¹⁵ / ₁₆	219	245	3-185	NC70	323,3	310,3	94,5 ^{+9,5}	89,5 ⁺⁹

Collar designation	Outer Ø		Inner Ø		Ø Elevator groove	Ø Wedge grip groove	Thread type		Type B linear meter weight, kg/m	Type C linear meter weight, kg/m	Maximum allowable makeup torque without unloading of thread grooves, kN x m	Maximum allowable makeup torque with unloading of thread grooves, kN x m
	mm	inch	mm	inch			GOST 28487-2018	API Spec 7-2				
BDC-254	254	10	76	3	219	245	3-201	8 $\frac{7}{8}$ REG	348,9	336	125 ^{+12,5}	120 ⁺¹²
	254	10	80	3 $\frac{5}{32}$	219	245	3-201	8 $\frac{7}{8}$ REG	345,2	332,3	125 ^{+12,5}	120 ⁺¹²
	254	10	90	3 $\frac{9}{16}$	219	245	3-201	8 $\frac{7}{8}$ REG	334,6	321,8	125 ^{+12,5}	120 ⁺¹²
	254	10	100	3 $\frac{15}{16}$	219	245	3-201	8 $\frac{7}{8}$ REG	323,7	310,9	125 ^{+12,5}	120 ⁺¹²
	254	10	76	3	219	245	3-203	NC77	347,7	334,7	122,5 ^{+12,3}	117,5 ^{+11,8}
	254	10	80	3 $\frac{5}{32}$	219	245	3-203	NC77	344	331	122,5 ^{+12,3}	117,5 ^{+11,8}
	254	10	90	3 $\frac{9}{16}$	219	245	3-203	NC77	333,4	320,5	122,5 ^{+12,3}	117,5 ^{+11,8}
	254	10	100	3 $\frac{15}{16}$	219	245	3-203	NC77	322,6	309,6	122,5 ^{+12,3}	117,5 ^{+11,8}
BDC-279	279	11	76	3	245	273	3-171	6 $\frac{5}{8}$ FH	431	415,6	92 ^{+9,2}	78 ^{+7,8}
	279	11	80	3 $\frac{5}{32}$	245	273	3-171	6 $\frac{5}{8}$ FH	427,3	411,8	90 ⁺⁹	85 ^{+8,5}
	279	11	90	3 $\frac{9}{16}$	245	273	3-171	6 $\frac{5}{8}$ FH	416,7	401,3	83 ^{+8,3}	78 ^{+7,8}
	279	11	100	3 $\frac{15}{16}$	245	273	3-171	6 $\frac{5}{8}$ FH	405,8	390,4	75 ^{+7,5}	70 ^{+7,0}
	279	11	76	3	245	273	3-201	8 $\frac{7}{8}$ REG	430,3	415,8	151 ^{+15,1}	145 ^{+14,5}
	279	11	80	3 $\frac{5}{32}$	245	273	3-201	8 $\frac{7}{8}$ REG	427,6	411,4	148,5 ^{+14,9}	142,5 ^{+14,3}
	279	11	90	3 $\frac{9}{16}$	245	273	3-201	8 $\frac{7}{8}$ REG	416	400,9	140,5 ^{+14,1}	134,5 ^{+13,5}
	279	11	100	3 $\frac{15}{16}$	245	273	3-201	8 $\frac{7}{8}$ REG	405,2	390	132 ^{+13,2}	126 ^{+12,6}
	279	11	76	3	245	273	3-203	NC77	428,8	413,5	153,5 ^{+15,4}	147,5 ^{+14,8}
	279	11	80	3 $\frac{5}{32}$	245	273	3-203	NC77	425,1	411,8	150,5 ^{+15,1}	144,5 ^{+14,5}
	279	11	90	3 $\frac{9}{16}$	245	273	3-203	NC77	414,5	399,2	142,5 ^{+14,3}	136,5 ^{+13,7}
	279	11	100	3 $\frac{15}{16}$	245	273	3-203	NC77	403,7	388,4	134 ^{+13,4}	128 ^{+12,8}

*Linear weight is calculated on the basis of the length of 9450 mm

**Other combinations of diameters and threads are possible

■ Forging of collars blank on the radial forging machine GFM SXP-55



DRILLING EQUIPMENT

BDC – BALANCED NON-MAGNETIC DRILL COLLAR, FLEX – HEAVY WEIGHT NON-MAGNETIC DRILL PIPE

Used for telemetry systems. Pipes are manufactured according to strength parameters taking into account geological and physical characteristics of the field under development, according to the requirements of the consumer. Pipes nomenclature is similar to BDC, HWDP.



Technical Specification	
Regulatory documents	TS 3 RG 200-2003, API Spec 7-1; TS 1342-236-07500243-2006, API Spec 7-1
Length, mm	8 300... 9 450
Magnetic permeability, maximum	1,010
Magnetic field deviation, maximum	0,05 mcTL

HWDP – HEAVY WEIGHT DRILL PIPE

Intended for axial loading of rock-breaking tools, improvement of stiffness and stability of drill string, torque transfer from rotor when drilling complicated horizontal wells. Pipes are manufactured from alloy steels with lengthwise heat treatment. The products are intended for use in cold and boreal macroclimatic regions.

GOST 15150 at a temperature from -40 to +40 °C.



Technical Specification	
Regulatory documents	TS 1342-236-07500243-2006, API Spec 7-1
Length, mm	8 300... 9 450
HWDP types	I – with one central increase in thickness; II – with two central increases in thickness; III – with central increase in thickness and spiral grooves; IV – without central increase in thickness; K – conical (18°C) shoulder П – straight (90°C) shoulder БП – inner polymer coating Т – hard-faced

MANUFACTURING OF PREMIUM THREAD CONNECTIONS

The company successfully manufactures pipes and adapters with premium tool joints.

A premium tool joint is a connection enabled by mating internal thrust faces and use of a special thread profile. It is used in difficult geological conditions of well construction in drilling with high torque.

ADVANTAGES OF PREMIUM THREAD CONNECTIONS

- Improved reliability of drill pipes performance in difficult operating conditions due to a special design.
- Achievement of failure-free operation in drilling of side holes, directional and horizontal wells

Pipe designation	Ø Box and pin upset		Outer Ø		Inner Ø		Tool joint thread		Type I linear meter weight, kg/m	Type III linear meter weight, kg/m	Maximum allowable makeup torque, kN x m		
	mm	inch	mm	inch	mm	inch	GOST 28487- 2018	API Spec 7-2					
HWDP-105-73-38	104,8	4¼	73	2⅞	38,1	1½	3-86	NC31	29,3	29,6	10,4 ⁺⁴		
HWDP-105-73-40					39,7	1½			28,6	28	10,4 ⁺¹		
HWDP-105-89-51	104,8	4¼	88,9	3½	50,8	2	3-86	NC31	35,9	43,7	9 ^{+0,9}		
HWDP-108-89-51	108	4¼							36,5	44,3	9 ^{+0,9}		
HWDP-121-73-51	120,6	4¾			52,4	2⅛	3-102	NC38	39	45	14,5 ^{+1,5}		
HWDP-121-89-52									38	44,9	14,5 ^{+1,5}		
HWDP-121-89-57									34,8	41,7	14,5 ^{+1,5}		
HWDP-124-89-51	123,8	4⅞							50,8	2	39,6	47,6	16,2 ^{+1,6}
HWDP-124-89-52									52,4	2⅛	38,6	46,6	16,2 ^{+1,6}
HWDP-124-89-57									57,2	2¾	35,4	44	16,1 ^{+1,6}
HWDP-127-89-51	127	5			50,8	2			40,2	48,3	18 ^{+1,8}		
HWDP-127-89-52					52,4	2⅛			39,3	47,3	18 ^{+1,8}		
HWDP-127-89-57					57,2	2¾			36,1	43	16,5 ^{+1,7}		
HWDP-133-102-57	133,4	5¼			101,6	4			57,2	2¾	3-108	NC40	50,2
HWDP-133-102-64			63,5	2½			45,5	54,6	18,5 ^{+1,9}				
HWDP-133-102-65			65,1	2⅞			44,4	52,1	18,3 ^{+1,8}				
HWDP-159-114-68	158,8	6¼	114,3	4½	68,3	2⅞	3-122	NC46	62	70,5	29 ^{+2,9}		
HWDP-159-114-70					69,9	2¾			60,2	69,1	28,5 ^{+2,9}		
HWDP-159-114-71					71,4	2⅞			59,4	67,8	28 ^{+2,8}		
HWDP-165-127-76	165,1	6½	127	5	76,2	3	3-133	NC50	72,9	81,7	36 ⁺³		
HWDP-168-127-76	168,3	6⅝			76,2	3			66,5	82,5	36 ⁺³		
HWDP-168-127-89					88,9	3½			63,3	85,9	29 ^{+2,9}		
HWDP-178-140-83	177,8	7	139,7	5½	82,6	3¼	3-147	5½ FH	88	99,8	40 ⁺⁴		
HWDP-178-140-86					85,7	3⅜			85	96,6	40 ⁺⁴		
HWDP-178-140-92					92,1	3⅝			78,1	89,7	40 ⁺⁴		
HWDP- 178-140-98					98,4	3⅝			72,2	82,5	36,5 ^{+3,7}		
HWDP-178-140-102					101,6	4			77,3	78,6	34,4 ^{+3,4}		
HWDP-184-140-83	184,2	7¼			82,6	3¼			91,5	101,8	46,4 ^{+4,6}		

DRILLING EQUIPMENT

Pipe designation	Ø Box and pin upset		Outer Ø		Inner Ø		Tool joint thread		Type I linear meter weight, kg/m	Type III linear meter weight, kg/m	Maximum allowable makeup torque, kN x m
	mm	inch	mm	inch	mm	inch	GOST 28487- 2018	API Spec 7-2			
HWDP- 184-140-86	184,2	7¼	139,7	5½	85,7	3⅜	3-147	5½FH	85	98,7	44,6 ^{+4,5}
HWDP- 184-140-92					92,1	3⅝			78,1	91,8	40,8 ^{+4,1}
HWDP- 184-140-98					98,4	3⅝			74,3	84,5	36,8 ^{+3,7}
HWDP-184-140-102					101,6	4			70,4	80,7	34,7 ^{+3,5}
HWDP- 190-140-83	190,5	7½			82,6	3¼			93,6	103,9	46,7 ^{+4,7}
HWDP- 190-140-86					85,7	3⅝			90,5	100,8	45 ^{+4,5}
HWDP- 190-140-92					92,1	3⅝			83,6	93,9	41 ^{+4,1}
HWDP- 190-140-98					98,4	3⅝			76,4	86,6	37 ^{+3,7}
HWDP-190-140-102					101,6	4	72,5	82,8	35 ^{+3,5}		
HWDP-203-168-102	203,2	8	168,3	6⅝	101,6	4	3-171	6⅝FH	123,1	135,7	55,5 ^{+5,6}
HWDP-203-168-114					114,3	4½			106,6	119,1	55,5 ^{+5,6}
HWDP-203-168-127					127	5			88,1	100,6	45,5 ^{+4,6}
HWDP-210-168-102	209,6	8¼			101,6	4			125,5	138	66 ^{+6,6}
HWDP-210-168-114					114,3	4½			108,9	121,4	57,6 ^{+5,8}
HWDP-210-168-127	215,9	8½			127	5			90,4	102,9	45,8 ^{+4,6}
HWDP-216-168-102					101,6	4			127,8	140,4	68,6 ^{+6,9}
HWDP-216-168-114					114,3	4½			111,3	123,8	58 ^{+5,8}
HWDP-216-168-127					127	5			92,8	105,3	46 ^{+4,6}

*Linear weight is calculated on the basis of the length of 9450 mm

Finished product



SK – square kelly STSK – split-type square kelly

Intended for torque transfer from rotor to drill string.
Optionally, left-hand rotation pipes can be manufactured.



Technical Specification

Regulatory documents	TS 1342-034-48416997-2005, API Spec 7-1
Length, mm	11 300... 16 460. The only Russian manufacturer of combination square kellys up to 28 m long!

Pipe designation	Square side		Ø Channel diameter		Diameter				Thread designation under GOST 28487-2018 (API SPEC 7-2)		Linear meter weight, kg/m	Maximum allowable makeup torque of box end, kN x m	Maximum allowable makeup torque of pin end, kN x m
					Outer, box end		Outer, pin end		Box end	Pin end			
	mm	inch	mm	inch	mm	inch	mm	inch					
SK-63K	63,5	2½	31,8	1¼	104,8	4¼	88,9	3½	3-76 LH (2% REG LH)	3-76 (2% REG)	27,6	7,5 ^{+0,8}	6,4 ^{+0,6}
					146,0	5¾	85,7	3%	3-117 LH (4% REG LH)	3-73 (NC26)	30,1	27,5 ^{+2,8}	5,6 ^{+0,6}
					196,8	7¾			3-121 LH (4% FH LH)		30	25,7 ^{+2,6}	5,6 ^{+0,6}
									3-152 LH (6% REG LH)		31,7	62,2 ^{+6,2}	5,1 ^{+0,5}
SK-76K	76,2	3	44,4	1¾	104,8	4¼	104,8	4%	3-86 LH (NC31 LH)	3-86 (NC31)	35,8	10,3 ^{+1,0}	10,3 ^{+1,0}
					120,6	4¾			3-102 LH (NC38 LH)		36,2	14,2 ^{+1,4}	10,3 ^{+1,0}
					146,0	5¾			3-117 LH (4% REG LH)		41,1	27,5 ^{+2,8}	10,3 ^{+1,0}
					196,8	7¾			3-152 LH (6% REG LH)		46,8	62,2 ^{+6,2}	9,4 ^{+0,9}
SK-80K	80	3	31,8	1½	104,8	4¼	104,8	4%	3-76 LH (2% REG LH)	3-73 (NC26)	42	6,6 ^{+0,8}	6,3 ^{+0,6}
			50	2	104,8	4¼			3-86 LH (NC31 LH)	3-86 (NC31)	35,9	9,2 ^{+0,9}	9,2 ^{+0,9}
					120,6	4¾			3-102 LH (NC38 LH)		36,8	14,2 ^{+1,4}	9,2 ^{+0,9}
					146,0	5¾			3-117 LH (4% REG LH)		37,4	27,5 ^{+2,8}	9,2 ^{+0,9}
SK-89K	88,9	3½	57,2	2¾	196,8	7¾	120,6	4¾	3-152 LH (6% REG LH)	3-102 (NC38)	44,9	62,2 ^{+6,2}	13,0 ^{+1,3}
					120,6	4¾	120,6	4¾	3-102 LH (NC38 LH)	3-102 (NC38)	47,1	14,2 ^{+1,4}	14,2 ^{+1,4}
					139,7	5½			3-118 LH (NC44 LH)		48,5	21,5 ^{+2,2}	14,2 ^{+1,4}
									3-117 LH (4% REG LH)		44,1	22,3 ^{+2,2}	14,2 ^{+1,4}
									3-117 LH (4% REG LH)		44,1	26,0 ^{+2,6}	14,2 ^{+1,4}
					146,0	5¾	139,7	5½	3-121 LH (4% FH LH)	44,8	25,7 ^{+2,6}	14,2 ^{+1,4}	
									3-118 LH (NC44 LH)	3-118 (NC44)	46,2	26,8 ^{+2,7}	21,5 ^{+2,2}
165,1	6½	127	5	3-117 LH (4% REG LH)	3-118 (NC44)	43,8	26,8 ^{+2,7}	16,0 ^{+1,6}					
				3-152 LH (6% REG LH)		45,7	62,2 ^{+6,2}	13 ^{+1,3}					
SK-108K	108	4¾	71,4	2	139,7	5½	139,7	5½	3-118 LH (NC44 LH)	3-118 (NC44)	61,8	21,5 ^{+2,2}	21,5 ^{+2,2}
					146,0	5¾				3-121 (4½ FH)	62,3		24,5 ^{+2,5}
					146,0	5¾	139,7	5½		3-118 (NC44)	61,8	22,6 ^{+2,3}	21,5 ^{+2,2}
							146,0	5¾		3-121 LH (4% FHLH)	3-118 (NC44)	62,3	24,5 ^{+2,5}
3-121 (4½ FH)	62,8	24,5 ^{+2,5}											

DRILLING EQUIPMENT

Pipe designation	Square side		Ø Channel diameter		Diameter				Thread designation under GOST 28487-2018 (API SPEC 7-2)		Linear meter weight, kg/m	Maximum allowable makeup torque of box end, kN x m	Maximum allowable makeup torque of pin end, kN x m
					Outer, box end		Outer, pin end		Box end	Pin end			
	mm	inch	mm	inch	mm	inch	mm	inch					
SK-108K	108	4¼	71,4	2	146	5¾	158,8	6¼	3-117 LH (4½ REG LH)	3-122 (NC46)	63,6	20,8 ^{+2,1}	27,6 ^{+2,8}
							161,9	6½		3-133 (NC50)	64,1		34,2 ^{+3,4}
					196,8	7¾	158,8	6¼	3-152 LH (6% REG LH)	3-122 (NC46)	68,1	58,3 ^{+5,8}	25,1 ^{+2,5}
							162	6½		3-133 (NC50)	68,8		31,1 ^{+3,1}
SK-112K	112	4½	71,4	2	196,8	7¾	158,8	6¼	3-152 LH (6% REG LH)	3-122 (NC46)	69,5	58,3 ^{+5,8}	25,0 ^{+2,5}
							161,9	6½		3-133 (NC50)	70,7		31,0 ^{+3,1}
SK-133K	133,4	5¼	82,6	3¾	196,8	7¾	177,8	7	3-152 LH (6% REG LH)	3-147 (5½ FH)	99,9	52,3 ^{+5,2}	40,0 ^{+4,0}
										3-149 (NC56)			40,0 ^{+4,0}
SK-140K	139,7	5½	82,6	3¾	196,8	7¾	177,8	7	3-152 LH (6% REG LH)	3-147 (5½ FH)	110,2	52,3 ^{+5,2}	40,0 ^{+4,0}
										3-149 (NC56)			40,0 ^{+4,0}
							184,2	7¼		3-147 (5½ FH)	115,2		46,0 ^{+4,6}
										3-149 (NC56)			45,3 ^{+4,5}
	139,7	5½	71,4	2	196,8	7¾	177,8	7	3-152 LH (6% REG LH)	3-147 (5½ FH)	112,5	64 ^{+6,4}	44 ^{+4,4}

*Linear weight is calculated on the basis of maximum length

- Optionally threads of the box and pin ends can be replaced with others, equal in strength.
- Optionally, hexagonal SK can be manufactured.
- STSK repair is performed with matching of square edges after re-threading.

SUBS AND CONNECTIONS

Subs are intended for connecting individual parts of the drill string with various threads.

Adapter connections (HWDPP, HWDPPNM) are used for adjusting drill string length, lifting connections – for round-trip operations.



Technical Specification	
Regulatory documents	TS 3668-263-07500243-2001, API Spec 7-1
Sub types	П – bottleneck 1 – cylindrical M – with box ends 2 – stepped H – with pin ends
Tool joint thread	3-65...3-177. Premium class threaded connections
Threads	Right and left
API types	– Lifting sub with taper shoulders; – Lifting sub with rectangular shoulders; – Subs for drill string type A, B, C for rotor drilling
Length of connections, mm	1000 - 6000

*Adapter and lifting connections can be manufactured for steel drill pipes, HWDPP, and BDC.

INSPECTION METHODS. CERTIFICATES AND LICENSES

INSPECTION METHODS

Express analysis of chemical composition of produced steel
Studying micro- and macrostructure of metal
Surface hardness inspection
Studying mechanical properties
Ultrasound inspection
Magnetic particle testing
Active in-process inspection at CNC lathes
Instrumental monitoring of geometrical dimensions

CERTIFICATES AND LICENSES



License for the right of use of the official API monogram for the manufactured drill collars, heavy weight drill pipes and kellys.



License for the right of use of the official API monogram for the manufactured sucker rods and associated couplings.



State Industrial Inspectorate of the Republic of Belarus. Permission for the right of manufacture and use of oilfield equipment in the Republic of Belarus.



EAC. Customs Union. Certificates of conformity to the Technical Regulation of the Customs Union for drill collars, kellys, sucker rods and subs.

MOTOVILIKHA

CIVIL ENGINEERING COMPANY

Bldg. 35/496, 1905 Goda St., Perm 614014 Russia
Tel.: +7 (342) 264-70-34, e-mail: zakaz@mzperm.ru
www.mzperm.ru

Drill collars, kellys, subs.
tel.: +7 (342) 264-70-17, 264-70-05

Sucker rods, polished rods, couplings,
tel.: +7 (342) 264-70-18