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CATALOGUE

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DOWNHOLE EQUIPMENT



	Certificate of Authority to use the Official API Monogram
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API.	REGISTRATION NO	0. Q1-2025
Certifica	te of Regis	tration
The American Petroleum Ir 1 No	stitute certifes that the quality man NKMZ GROUP, LTD. 9/4 Magistrainaya Street rftekamsk, Bashkortostan Russian Federation	agement system of
has been assessed by the Am	erican Petroleum Institute and found with the following:	I to be in conformance
API Sp	ecification	n Q1
Design, Manufacture and I Anch	Delivery of Packers and Packer Co ors for the Oil and Gas Industries	mponents including
API approves t No E	he organization's justification for exc inclusions identified as Applicable	luding
	Effective Date: Expiration Date: Registered Since:	JANUARY 21, 202 JANUARY 21, 202 JANUARY 21, 201
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	NKMZ GROUP, LTD.
	19/4 Magistralnaya Street Neftekamsk, Bashkortostan
	Russian Federation
	has been assessed by the American Petroleum Institute Quality Registrar (APIQR®) and
	found it to be in conformance with the following standard:
	ISO 9001:2015
	The scope of this registration and the approved quality management system applies to the Decime Manufacture and Delivery of Decime and Decime and Decime Commences
	including Anchors for the Oil and Gas Industries
	APIOR" approves the organization's justification for excluding:
	No Exclusions Identified as Applicable
	Effective Date: JUNE 10, 2020
	Expiration Date: JANUARY 21, 2023 Allow Opplully
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	Industry Services
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	BUREAU VERITA: Certification	
	NKMZ-Group, Ltd	
	ISO 9001:2015	
DESIGN, MANUFACTUP TOOLS, UNITS, ASSEMB COMPONENTS, USED IN PROSPECTING-EXPLOF WELL WORKO	ING AND RELEASE OF THE SPECIA LIES, PERFORMING PERFORATING XIL-AND-GAS INDUSTRY, EXPLORA LATION DRILLING, MAJOR, CURREN FER JOBS, PERFORMING PERFORA	ALIZED EQUIPMENT, EQUIPMENT AND ITS TION WORKS DURING AT AND DOWN-HOLE TING JOBS.
Site Name	Site Address	Site Scope
NKMZ-Group, Ltd	19, Magistrainaya str., Bashkortostan, Neflekamsk, 452583, Russian Fed.	
NKMZ-ST, LM	19. Magistralnaya str.,Bashkortostan, Neflekarnsk, 452583, Russian Fed.	 Design, manufacturing an release of the specialize equipment, tools, units, examples, performing
	19, Magistralnaya str.,Bashkortostan, Neftakamsk, 452583, Russian Fed.	perforating equipment an its components, used in o and-gas industry,
TD NKMZ, LM		
TD NKMZ, Ltd Oliwell Thermotecnologies, Ltd.	19, Magistrainaya str., Bashkortostan, Neflekamsk, 452583, Russian Fed.	exploration works during prospecting-exploration drilling, major, current an
TD NKMZ, LM Olwell Thermotecnologies, LM. Vzryvgeoservice, JSC	19, Magistrainaya str., Bashkortostan, Nefakamak, 452653, Russian Fed. 1944, Magistrainaya str., Bashkortostan, Nefakamsk, 452663, Russian Fed.	exploration works during prospecting-exploration drilling, major, current an down-hote well workove jobs, performing perforation jobs.
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MULTITECH Packers and Associated Downhole Tools



MULTITECH PM-V rotary mechanical set packer

Application

- Squeeze cementing;
- Hydraulic fracturing;
- Formation pressure increase;
- Casing leak detection;
- Acidizing;
- Well testing and production;
- Other well interventions which require pressurization above or below the packer.
 To stand upward movement of the string due to differential pressure from below and to hold the packer down the PM-V packer is equipped with hydraulic anchors YaG1, YaG2 or YaG3.

Allows for long-term isolation of zones in the production casing and protects the production casing from the inside from dynamic and hostile downhole conditions in the course of bottomhole zone treatment.

- The packer is set in the well by a quarter right-hand turn of the tubing string and lowering it;
- To release the packer apply tension to the tubing;
- Two-cup (protective and sealing) or three-cup (two protective and one sealing) design;
- Simple design;
- Low maintenance cost;
- To easily release the packer in the deep wells it is recommended that the packer be set along with KU-O unloader valve (placed above the packer). The valve allows the pressure between the tubing and the annulus to equalize.



	Casing size						Maximum						
Туре			OD		ID		Connec	Connection*		Weight, lbs, no	pressure,	Maximum	Setdown Force, kN,
	in	mm	in	mm	in	mm	in	mm	more than	more than	psi	temperature, r	no more than
PM-V 82-34-100	4.0	101.6	3.23	82	1.339	34	2.375 NU	60.33	45.276	48.5	14500**	266***	5080
PM-V 88-38-100	4 1/2	114.3	3.465	88	1.496	38	2.375 NU	60.33	45.276	55.1	14500**	266***	5080
PM-V 92-38-100	4 1/2	114.3	3.622	92	1.496	38	2.375 NU	60.33	45.276	57.3	14500**	266***	5080
PM-V 98-42-100	4 ½; 5.0	114.3; 127.0	3.86	98	1.654	42	2.875 NU	73.03	48.819	66.1	14500**	266***	5080
PM-V 101-42-100	5.0	127.0	3.976	101	1.654	42	2.875 NU	73.03	48.819	75	14500**	266***	5080
PM-V 112-52-100	5 ½; 5 ¾	139.7; 146.1	4.41	112	2.047	52	2.875 NU	73.03	48.819	92.95	14500**	266***	80120
PM-V 114-52-100	5 ½	139.7	4.49	114	2.047	52	2.875 NU	73.03	48.819	97	14500**	266***	80120
PM-V 116-52-100	5 ½; 5 ¾	139.7; 146.1	4.567	116	2.047	52	2.875 NU	73.03	48.819	99.2	14500**	266***	80120
PM-V 118-52-100	5 ½; 5 ¾	139.7; 146.1	4.646	118	2.047	52	2.875 NU	73.03	48.819	101.4	14500**	266***	80120
PM-V 122-52-100	5 ¾	146.1	4.803	122	2.047	52	2.875 NU	73.03	48.819	105.8	14500**	266***	80120
PM-V 136-60-100	6 5%	168.3	5.354	136	2.362	60	2.875 NU	73.03	48.819	125.7	14500**	266***	80120
PM-V 140-60-100	6 %	168.3	5.512	140	2.362	60	2.875 NU	73.03	48.819	138.9	14500**	266***	80120
PM-V 142-60-100	6 5%	168.3	5.59	142	2.362	60	2.875 NU	73.03	48.819	145.5	14500**	266***	80120
PM-V 145-60-100	6 %; 7	168.3; 177.8	5.709	145	2.362	60	2.875 NU	73.03	48.819	149.9	14500**	266***	80120
PM-V 150-60-100	7.0	177.8	5.906	150	2.362	60	2.875 NU	73.03	48.819	156.5	14500**	266***	80120

• * Optional box (top) and pin (bottom) thread connections are available.

• ** Differential pressure ratings — 5076 psi; 7252 psi; 10150 psi; 14500 psi.

• *** High-temperature (302 °F) model of the packer is available on request.

■ Higher performance version available for hostile environments – K2 Model.

• If ordering a packer with a hydraulic anchor, please indicate the anchor option (YaG1, YaG2 or YaG3) following the packer's name.

• Other sizes of PM-V packer are available on request.

MULTITECH PVM-O axial mechanical set packer

Application

- Formation pressure increase;
- Acid fracturing;
- Squeeze cementing;
- Acidizing;
- Casing leak test;
- Well testing and production;
- Other well interventions which require pressurization above or below the packer.
 To prevent the tool string from moving under weight and to hold the packer down at the tool's depth the PVM-O Model is completed with hydraulic anchors YaG1, YaG2 or YaG3.

Allows for long-term isolation of zones in the production casing and protects the production casing from dynamic and hostile downhole conditions in the course of bottomhole zone treatment.

- To set the packer pull the tubing string upward and then lower it (tubing rotation is not required);
- To release the packer pull the tubing string upward;
- The packer has two latching slots to ensure secure setting of the packer in deviated wellbores;
- Two-cup (protective and sealing) or three-cup (two protective and one sealing) design for worn casings;
- To easily release the packer in the deep wells it is recommended that the packer be set along with KU-O unloader valve (placed above the packer). The valve allows the pressure between the tubing and the annulus to equalize;
- The packer has a built-in hydraulic anchor which can also be connected through a coupling;
- Easy to use and maintain;
- Multiple use within one tripping;
- Tool's components are plated or coated with phosphate.



	Casing size												
Туре			OD		I	ID		tion*	Length, in,	Mainht lbs no	Maximum	Maximum	Setdown Force, kN,
туре	in	mm	in	mm	in	mm	in	mm	no more than	more than	pressure, psi	rature, °F	no more than
PVM-0 82-34-100	4.0	101.6	3.23	82	1.339	34	2.375 NU	60.33	56.1	52.9	14500**	266***	5080
PVM-0 88-38-100	4 1/2	114.3	3.465	88	1.496	38	2.375 NU	60.33	56.1	61.7	14500**	266***	5080
PVM-0 92-38-100	4 1/2	114.3	3.622	92	1.496	38	2.375 NU	60.33	56.1	66.1	14500**	266***	5080
PVM-0 98-42-100	4 ½; 5.0	114.3; 127.0	3.86	98	1.654	42	2.875 NU	73.03	59	72.75	14500**	266***	5080
PVM-0 101-42-100	5.0	127.0	3.976	101	1.654	42	2.875 NU	73.03	59	79.37	14500**	266***	5080
PVM-0 112-52-100	5 ½; 5 ¾	139.7; 146.1	4.41	112	2.047	52	2.875 NU	73.03	60.6	97	14500**	266***	80120
PVM-0 114-52-100	5 ½	139.7	4.49	114	2.047	52	2.875 NU	73.03	60.6	99.2	14500**	266***	80120
PVM-0 116-52-100	5 ½; 5 ¾	139.7; 146.1	4.567	116	2.047	52	2.875 NU	73.03	60.6	103.6	14500**	266***	80120
PVM-0 118-52-100	5 ½; 5 ¾	139.7; 146.1	4.646	118	2.047	52	2.875 NU	73.03	60.6	103.6	14500**	266***	80120
PVM-0 122-52-100	5 ¾	146.1	4.803	122	2.047	52	2.875 NU	73.03	60.6	110.2	14500**	266***	80120
PVM-0 136-60-100	6 5⁄8	168.3	5.354	136	2.362	60	2.875 NU	73.03	61	138.9	14500**	266***	80120
PVM-0 140-60-100	6 ⁵⁄s	168.3	5.512	140	2.362	60	2.875 NU	73.03	61.42	158.7	14500**	266***	80120
PVM-0 142-60-100	6 5⁄8	168.3	5.59	142	2.362	60	2.875 NU	73.03	61.42	160.9	14500**	266***	80120
PVM-0 145-60-100	6 %; 7	168.3; 177.8	5.709	145	2.362	60	2.875 NU	73.03	61.42	165.35	14500**	266***	80120
PVM-0 150-60-100	7.0	177.8	5.906	150	2.362	60	2.875 NU	73.03	61.42	180.8	14500**	266***	80120

• * Optional box (top) and pin (bottom) thread connections are available.

• ** Differential pressure ratings — 5076 psi; 7252 psi; 10150 psi; 14500 psi.

- *** High-temperature (302 °F) model of the packer is available on request.
- Higher performance version available for hostile environments K2 Model.

• If ordering a packer with a hydraulic anchor, please indicate the anchor option (YaG1, YaG2 or YaG3) following the packer's name.

• Other sizes of PVM-O packer are available on request.

MULTITECH PM-R axial mechanical set packer

Application

- Acid fracturing;
- Acidizing;
- Squeeze cementing;
- Formation pressure increase;
- Casing leak test;
- Other well interventions which require pressurization above or below the packer.
- To prevent the tool string from moving under pressure and to hold the packer down at the tool's depth during well interventions the PM-R packer is completed with hydraulic anchors YaG1, YaG2 or YaG3.

Allows for long-term isolation of zones in the production casing and protects the production casing from dynamic and hostile downhole conditions in the course of bottomhole zone treatment.

- To set the packer pull the tubing string upward and then lower it (tubing rotation is not required);
- To release the packer pull the tubing string upward;
- Two-cup (protective and sealing) or three-cup (two protective and one sealing) design for worn casings;
- Built-in hydraulic anchor;
- To easily release the packer in the deep wells it is recommended that the packer be set along with KU-O unloader valve (placed above the packer). The valve allows for pressure between the tubing and the annulus to equalize;
- Multiple use within one tripping;
- High maintainability;
- Tool's components are plated or coated with phosphate.



Туре	Cas	ing size	OD IC)	Connection*		Longth in no		Maximum	Maximum	Setdown Force,	
	in	mm	in	mm	in	mm	in	mm	more than	no more than	pressure, psi	temperature, °F	kN, no more than
PM-R 70-25-70	3 1/2	88.9	2.756	70	0.984	25	2.375 NU	60.33	63.386	59.5	10150***	266****	5080
PM-R 80-38-70	4.0	101.6	3.15	80	1.496	38	2.375 NU	60.33	63.386	66.1	10150***	266****	5080
PM-R 82-38-100	4.0	101.6	3.23	82	1.496	38	2.375 NU	60.33	63.386	68.3	14500***	266****	5080
PM-R 88-38-100	4 1/2	114.3	3.465	88	1.496	38	2.375 NU	60.33	63.386	86	14500***	266****	5080
PM-R 92-38-100	4 1/2	114.3	3.622	92	1.496	38	2.375 NU	60.33	63.386	90.4	14500***	266****	5080
PM-R 98-42-100	4 ½; 5.0	114.3; 127.0	3.86	98	1.654	42	2.875 NU	73.03	64.92	92.6	14500***	266****	5080
PM-R 101-42-100	5.0	127.0	3.976	101	1.654	42	2.875 NU	73.03	67.32	101.4	14500***	266****	5080
PM-R 112-52-100	5 ½; 5 ¾	139.7; 146.1	4.41	112	2.047	52	2.875 NU	73.03	69.685	125.7	14500***	266****	80120
PM-R 114-52-100	5 ½	139.7	4.49	114	2.047	52	2.875 NU	73.03	69.685	132.3	14500***	266****	80120
PM-R 116-52-100	5 ½; 5 ¾	139.7; 146.1	4.567	116	2.047	52	2.875 NU	73.03	69.685	136.7	14500***	266****	80120
PM-R 118-52-100	5 ½; 5 ¾	139.7; 146.1	4.646	118	2.047	52	2.875 NU	73.03	69.685	136.7	14500***	266****	80120
PM-R 122-52-100	5 3⁄4	146.1	4.803	122	2.047	52	2.875 NU	73.03	69.685	143.3	14500***	266****	80120
PM-R 136-60-100	6 5⁄8	168.3	5.354	136	2.362**	60**	2.875 NU	73.03	69.685	196.2	14500***	266****	80120
PM-R 140-60-100	6 5⁄8	168.3	5.512	140	2.362**	60**	2.875 NU	73.03	69.685	202.8	14500***	266****	80120
PM-R 142-60-100	6 5⁄8	168.3	5.59	142	2.362**	60**	2.875 NU	73.03	69.685	207.2	14500***	266****	80120
PM-R 145-60-100	6 %; 7	168.3; 177.8	5.709	145	2.362**	60**	2.875 NU	73.03	69.685	207.2	14500***	266****	80120
PM-R 150-60-100	7.0	177.8	5.906	150	2.362**	60**	2.875 NU	73.03	70.472	227.1	14500***	266****	80120
PM-R 152-60-100	7.0	177.8	5.984	152	2.362**	60**	2.875 NU	73.03	70.472	231.5	14500***	266****	80120
PM-R 182-95-100	8 5/8	219.1	7.283	185	3.74	95	4.5 NU	114.3	78.74	330.7	14500***	266****	80120
PM-R 205-100-100	9 5⁄8	244.5	8.07	205	3.937	100	4.5 NU	114.3	78.74	383.6	14500***	266****	120160

• * Optional box (top) and pin (bottom) thread connections are available.

• ** Larger Tool ID of 2.992 in (76mm) is available on request.

- *** Differential pressure ratings 5076 psi; 7252 psi; 10150 psi; 14500 psi.
- **** High-temperature (302 °F) model of the packer is available on request.
- Higher performance version available for hostile environments K2 Model.

■ If ordering a packer with a hydraulic anchor, please indicate the anchor option (YaG1, YaG2 or YaG3) following the packer's name.

• Other sizes of PM-R packer are available on request.

MULTITECH PM-A axial mechanical set packer

Application

- Formation pressure increase;
- Acidizing;
- Well testing and production;
- Long-term isolation of zones in the production casing;
- Other well interventions which require pressurization above or below the packer.

Allows for long-term isolation of zones in the production casing and protects the production casing from dynamic and hostile downhole conditions in the course of bottomhole zone treatment.

- The packer is set in the well by a quarter right-hand turn of the tubing string and lowering it;
- The packer is released by a quarter right-hand turn of the tubing string and an upward pull;
- Two-cup (protective and sealing) or three-cup (two protective and one sealing) design;
- Original sleeve design enables the packer release off the tubing with an RK On-Off Connector and replacement of the tubing without packer unsetting and pickup;
- The packer has two mechanical anchors to secure it in the well with pressure applied from above or below;
- Doesn't require tandem installation with hydraulic anchors;
- Robust construction;
- Dependable sealing of the production casing during cyclic injection;
- Tool's components are plated or coated with phosphate.



	6						Packer size						
Type	Casin	ig size	0	D	I	D	Connec	tion*	Length, in,	Weight, lbs,	Maximum	Maximum	Setdown Force,
Type	in	mm	in	mm	in	mm	in	mm	no more than	no more than	pressure, psi	rature, °F	kN, no more than
PM-A 112-50-70	5 ½; 5 ¾	139.7; 146.1	4.41	112	1.969	50	2.875 NU	73.03	96.575	165.35	10150**	266***	80120
PM-A 114-50-70	5 ½	139.7	4.49	114	1.969	50	2.875 NU	73.03	96.575	171.96	10150**	266***	80120
PM-A 116-50-70	5 ½; 5 ¾	139.7; 146.1	4.567	116	1.969	50	2.875 NU	73.03	96.575	180.8	10150**	266***	80120
PM-A 118-52-70	5 ½; 5 ¾	139.7; 146.1	4.646	118	2.047	52	2.875 NU	73.03	96.575	189.6	10150**	266***	80120
PM-A 122-52-70	5 3⁄4	146.1	4.803	122	2.047	52	2.875 NU	73.03	96.575	205	10150**	266***	80120
PM-A 136-60-70	6 5⁄8	168.3	5.354	136	2.362	60	2.875 NU	73.03	96.575	268.96	10150**	266***	80120
PM-A 140-60-70	6 ⁵⁄≋	168.3	5.512	140	2.362	60	2.875 NU	73.03	96.575	286.6	10150**	266***	80120
PM-A 142-60-70	6 5⁄8	168.3	5.59	142	2.362	60	2.875 NU	73.03	96.575	295.42	10150**	266***	80120
PM-A 145-60-70	6 ⁵⁄s; 7	168.3; 177.8	5.709	145	2.362	60	2.875 NU	73.03	96.575	302	10150**	266***	80120
PM-A 150-60-70	7.0	177.8	5.906	150	2.362	60	2.875 NU	73.03	97.244	335.1	10150**	266***	80120

• * Optional box (top) and pin (bottom) thread connections are available.

- ** Differential pressure ratings 5076 psi; 7252 psi; 10150 psi.
- *** High-temperature (302 °F) model of the packer is available on request.

■ Higher performance version available for hostile environments – K2 Model.

• Other sizes of PM-A packer are available on request.

MULTITECH PM-A1 axial mechanical set packer

Application

- Formation pressure increase;
- Squeeze cementing;
- Other well interventions which require pressurization above or below the packer.

Allows for long-term isolation of zones in the production casing and protects the production casing from dynamic and hostile downhole conditions in the course of bottomhole zone treatment.

- To set the packer pull the tubing string upward and then lower it (tubing rotation is not required);
- To release the packer pull the tubing string upward;
- Two-cup (protective and sealing) or three-cup (two protective and one sealing) design;
- The packer has two mechanical anchors to secure it in the well with pressure applied from above or below;
- Robust construction;
- Dependable sealing of the production casing during cyclic injection;
- Tool's components are plated or coated with phosphate.



	Cosin	!					Packer si	ze					
Type	Casin	ig size	0	D	ID		Connec	tion*	longth in no	Woight Ibc no	Maximum	Maximum	Setdown Force, kN,
Type	in	mm	in	mm	in	mm	in	mm	more than	more than	pressure, psi	temperature, °F	no more than
PM-A1 101-42-70	5.0	127.0	3.976	101	1.654	42	2.875 NU	73.03	106.3	209.4	10150***	266****	80120
PM-A1 114-50-70	5 1/2	139.7	4.49	114	1.969	50	2.875 NU	73.03	107.874	235.9	10150***	266****	80120
PM-A1 116-50-70	5 1/2; 5 3/4	139.7; 146.1	4.567	116	1.969	50	2.875 NU	73.03	107.874	240.3	10150***	266****	80120
PM-A1 118-52-70	5 1/2; 5 3/4	139.7; 146.1	4.646	118	2.047	52	2.875 NU	73.03	109.65	251.3	10150***	266****	80120
PM-A1 122-52-70	5 ³ /4	146.1	4.803	122	2.047	52	2.875 NU	73.03	109.65	255.7	10150***	266****	80120
PM-A1 136-60-70	6 5/8	168.3	5.354	136	2.362**	60**	2.875 NU	73.03	111.22	330.7	10150***	266****	80120
PM-A1 140-60-70	6 5⁄8	168.3	5.512	140	2.362**	60**	2.875 NU	73.03	111.22	332.9	10150***	266****	80120
PM-A1 142-60-70	6 5⁄8	168.3	5.59	142	2.362**	60**	2.875 NU	73.03	111.22	337.3	10150***	266****	80120
PM-A1 145-60-70	6 5⁄/8; 7	168.3; 177.8	5.709	145	2.362**	60**	2.875 NU	73.03	111.22	377	10150***	266****	80120
PM-A1 150-60-70	7.0	177.8	5.906	150	2.362**	60**	2.875 NU	73.03	112.2	383.6	10150***	266****	80120

• * Optional box (top) and pin (bottom) thread connections are available.

- ** Larger Tool ID of 2.992 in (76mm) is available on request.
- *** Differential pressure ratings 5076 psi; 7252 psi; 10150 psi.

• **** High-temperature (302 °F) model of the packer is available on request.

• Higher performance version available for hostile environments - K2 Model.

• Other sizes of PM-A1 packer are available on request.

MULTITECH Packers and Associated Downhole Tools

MULTITECH PM-A1 (F) axial mechanical set packer (retainer)

Application

- Formation pressure increase;
- Squeeze cementing;
- Long-term isolation of zones in the production casing;
- Other well interventions which require pressurization above or below the packer.

Allows for long-term isolation of zones in the production casing and protects the production casing from dynamic and hostile downhole conditions in the course of bottomhole zone treatment.

- To set the packer pull the tubing string upward and then lower it (tubing rotation is not required);
- To release the packer pull the tubing string upward;
- Two-cup (protective and sealing) or three-cup (two protective and one sealing) design;
- The packer has two mechanical anchors to secure it in the well with pressure applied from above or below;
- Robust construction;
- Dependable sealing of the production casing during cyclic injection;
- Tool's components are plated or coated with phosphate.



		•					Packer si	ze					
Type	Cas	sing size	0	D	I	D	Connect	ion*	Laweth in us	Mainht lha na	Maximum	Maximum	Setdown Force,
Type	in	mm	in	mm	in	mm	in	mm	more than	more than	pressure, psi	temperature, °F	kN, no more than
PM-A1 (F) 114-50-70	5 ½	139.7	4.49	114	1.969	50	2.875 NU	73.03	106.89	198.4	10150**	266***	80120
PM-A1 (F) 116-50-70	5 ½; 5 ¾	139.7; 146.1	4.567	116	1.969	50	2.875 NU	73.03	106.89	202.83	10150**	266***	80120
PM-A1 (F) 118-52-70	5 ½; 5 ¾	139.7; 146.1	4.646	118	2.047	52	2.875 NU	73.03	106.89	213.85	10150**	266***	80120
PM-A1 (F) 122-52-70	5 3⁄4	146.1	4.803	122	2.047	52	2.875 NU	73.03	106.89	229.28	10150**	266***	80120
PM-A1 (F) 136-62-70	6 %	168.3	5.354	136	2.441	62	2.875 NU	73.03	104.41	282.2	10150**	266***	80120
PM-A1 (F) 140-62-70	6 %	168.3	5.512	140	2.441	62	2.875 NU	73.03	104.41	291	10150**	266***	80120
PM-A1 (F) 142-62-70	6 5⁄8	168.3	5.59	142	2.441	62	2.875 NU	73.03	104.41	308.65	10150**	266***	80120
PM-A1 (F) 145-62-70	6 ⅔; 7	168.3; 177.8	5.709	145	2.441	62	2.875 NU	73.03	104.41	319.7	10150**	266***	80120
PM-A1 (F) 150-62-70	7.0	177.8	5.906	150	2.441	62	2.875 NU	73.03	104.41	326.3	10150**	266***	80120

• * Optional box (top) and pin (bottom) thread connections are available.

- ** Differential pressure ratings 5076 psi; 7252 psi; 10150 psi.
- *** High-temperature (302 °F) model of the packer is available on request.
- Higher performance version available for hostile environments K2 Model.
- Other sizes of PM-A1 (F) packer are available on request.



MULTITECH PU compression packer

Application

- Two- or three-packer assemblies used for dual completion or dual injection;
- Other well interventions which require pressurization above or below the packer.
 To prevent the tool string from moving under weight and to hold the packer down at the tool's depth the PU Packer is completed with hydraulic anchors YaG1, YaG2 or YaG3.

Allows for long-term isolation of zones in the production casing and protects the production casing from dynamic and hostile downhole conditions in the course of bottomhole zone treatment.

- Set with a liner seating against the bottomhole or atop the lower packer;
- Reliable setting in deviated and horizontal wells;
- Equipped with a pin to ensure a torque-through feature to allow rotation of the tubing assembly below the packer;
- Easy setting;
- Two-cup (protective and sealing) or three-cup (two protective and one sealing) design for worn casings;
- Simple design;
- Tool's components are plated or coated with phosphate.



							Packer	size					
Type	Cas	ing size	0	D	IC)	Connec	tion*	Longth in no	Waight Ibs no	Maximum	Maximum	Setdown Force, kN,
- iype	in	mm	in	mm	in	mm	in	mm	more than	more than	pressure, psi	temperature, °F	no more than
PU 80-38-70	4.0	101.6	3.15	80	1.496	38	2.375 NU	60.33	35.236	39.68	10150**	266***	5080
PU 82-38-70	4.0	101.6	3.23	82	1.496	38	2.375 NU	60.33	35.236	41.9	10150**	266***	5080
PU 88-38-100	4 1/2	114.3	3.465	88	1.496	38	2.375 NU	60.33	35.236	48.5	14500**	266***	5080
PU 92-38-100	4 1/2	114.3	3.622	92	1.496	38	2.375 NU	60.33	35.236	52.91	14500**	266***	5080
PU 98-42-100	4 ½; 5.0	114.3; 127.0	3.86	98	1.654	42	2.875 NU	73.03	35.433	55.1	14500**	266***	5080
PU 101-42-100	5.0	127.0	3.976	101	1.654	42	2.875 NU	73.03	35.433	57.3	14500**	266***	5080
PU 112-52-100	5 ½; 5 ¾	139.7; 146.1	4.41	112	2.047	52	2.875 NU	73.03	35.63	61.73	14500**	266***	80120
PU 114-52-100	5 ½	139.7	4.49	114	2.047	52	2.875 NU	73.03	35.63	61.73	14500**	266***	80120
PU 116-52-100	5 ½; 5 ¾	139.7; 146.1	4.567	116	2.047	52	2.875 NU	73.03	35.63	66.14	14500**	266***	80120
PU 118-52-100	5 ½; 5 ¾	139.7; 146.1	4.646	118	2.047	52	2.875 NU	73.03	35.63	68.34	14500**	266***	80120
PU 122-52-100	5 ¾	146.1	4.803	122	2.047	52	2.875 NU	73.03	35.63	70.55	14500**	266***	80120
PU 136-60-100	6 5⁄8	168.3	5.354	136	2.362	60	2.875 NU	73.03	35.827	90.4	14500**	266***	80120
PU 140-60-100	6 5⁄8	168.3	5.512	140	2.362	60	2.875 NU	73.03	35.827	97	14500**	266***	80120
PU 142-60-100	6 5⁄8	168.3	5.59	142	2.362	60	2.875 NU	73.03	35.827	97	14500**	266***	80120
PU 145-60-100	6 ⅓; 7	168.3; 177.8	5.709	145	2.362	60	2.875 NU	73.03	35.827	97	14500**	266***	80120
PU 150-60-100	7.0	177.8	5.906	150	2.362	60	2.875 NU	73.03	35.827	101.4	14500**	266***	80120
PU 182-76-100	8 %	219.1	7.283	185	2.992	76	4.5 NU	114.3	40.748	126.46	14500**	266***	80120
PU 205-100-100	9 %	244.5	8.07	205	3.937	100	4.5 NU	114.3	40.748	185.39	14500**	266***	120160

• * Optional box (top) and pin (bottom) thread connections are available.

- ** Differential pressure ratings 5076 psi; 7252 psi; 10150 psi. At 14500 psi the packer is used with a hydraulic anchor YaG1, YaG2 or YaG3.
- *** High-temperature (302 °F) model of the packer is available on request.
- Higher performance version available for hostile environments K2 Model.
- If ordering a packer with a hydraulic anchor, please indicate the anchor option (YaG1, YaG2 or YaG3) following the packer's name.
- Other sizes of PU packer are available on request.

MULTITECH PU-M compression mechanical set packer

Application

- ESP completions;
- Casing leak test below the packer;
- Multi-packer assemblies used for dual completion and dual injection;
- Fracturing for isolation of the upper section of the production casing (in straddle packer assemblies);
- Other well interventions which require pressurization above or below the packer.

Allows for long-term isolation of zones in the production casing and protects the production casing from dynamic and hostile downhole conditions in the course of bottomhole zone treatment.

- Set with a liner seating against the bottomhole or atop the lower packer;
- The tool allows the packer to be suspended in the hole (without tubing);
- Two- and three-packer assemblies;
- Reliable setting in deviated and horizontal wells;
- Equipped with a pin to ensure a torque-through feature to allow rotation of the tubing assembly below the packer;
- Easy setting;
- Two-cup (protective and sealing) or three-cup (two protective and one sealing) design for worn casings;
- Simple design;
- Tool's components are plated or coated with phosphate.



	Cas				-		Packer	size					
Type	Cas	ing size	0	D		D	Connec	tion*	longth in no	Waight Ibs no	Maximum	Maximum	Setdown Force, kN,
Type	in	mm	in	mm	in	mm	in	mm	more than	more than	pressure, psi	tempe-rature, °F	no more than
PU-M 101-42-70	5.0	127.0	3.976	101	1.654	42	2.875 NU	73.03	88.583	154.3	10150**	266***	5080
PU-M 105-42-70	5.0	127.0	4.114	105	1.654	42	2.875 NU	73.03	88.583	180.8	10150**	266***	5080
PU-M 112-50-70	5 ½; 5 ¾	139.7; 146.1	4.41	112	1.969	50	2.875 NU	73.03	89.37	187.39	10150**	266***	80120
PU-M 114-50-70	5 ½	139.7	4.49	114	1.969	50	2.875 NU	73.03	89.37	191.8	10150**	266***	80120
PU-M 116-50-70	5 ½; 5 ¾	139.7; 146.1	4.567	116	1.969	50	2.875 NU	73.03	89.37	196.2	10150**	266***	80120
PU-M 118-50-70	5 ½; 5 ¾	139.7; 146.1	4.646	118	1.969	50	2.875 NU	73.03	89.37	202.83	10150**	266***	80120
PU-M 122-50-70	5 3⁄4	146.1	4.803	122	1.969	50	2.875 NU	73.03	89.37	209.44	10150**	266***	80120
PU-M 136-56-70	6 5⁄8	168.3	5.354	136	2.205	56	2.875 NU	73.03	90.551	264.56	10150**	266***	80120
PU-M 140-56-70	6 5⁄8	168.3	5.512	140	2.205	56	2.875 NU	73.03	90.551	291	10150**	266***	80120
PU-M 142-56-70	6 5⁄8	168.3	5.59	142	2.205	56	2.875 NU	73.03	90.551	297.6	10150**	266***	80120
PU-M 145-56-70	6 %; 7	168.3; 177.8	5.709	145	2.205	56	2.875 NU	73.03	90.551	299.83	10150**	266***	80120
PU-M 150-56-70	7.0	177.8	5.906	150	2.205	56	2.875 NU	73.03	90.551	308.65	10150**	266***	80120
PU-M 182-76-70	8 5/8	219.1	7.283	185	2.992	76	4.5 NU	114.3	96.457	412.26	10150**	266***	80120
PU-M 205-100-70	9 %	244.5	8.07	205	3.937	100	4.5 NU	114.3	101.968	520.29	10150**	266***	120160

• * Optional box (top) and pin (bottom) thread connections are available.

• ** Differential pressure ratings — 5076 psi; 7252 psi; 10150 psi.

• *** High-temperature (302 °F) model of the packer is available on request.

■ Higher performance version available for hostile environments – K2 Model.

• Other sizes of PU-M packer are available on request.

MULTITECH PU-M (R) split-cone compression packer

Application

- ESP completions;
- Casing leak test below the packer;
- Multi-packer assemblies used for dual completion and dual injection;
- Other well interventions which require pressurization above or below the packer.

Allows for long-term isolation of zones in the production casing and protects the production casing from dynamic and hostile downhole conditions in the course of bottomhole zone treatment.

- The packer's design incorporates an upper adjustable cone;
- Set with a liner seating against the bottomhole or atop the lower packer;
- The tool allows the packer to be suspended in the hole (without tubing);
- Two- and three-packer assemblies;
- Reliable setting in deviated and horizontal wells;
- Equipped with a pin to ensure a torque-through feature to allow rotation of the tubing assembly below the packer;
- Easy setting;
- Two-cup (protective and sealing) or three-cup (two protective and one sealing) design;
- Simple design;
- Tool's components are plated or coated with phosphate.



	6						Packe	r size					
Туре	Cas	sing size	C	D	10)	Connec	tion*	Longth in no	Maight lbs as	Maximum	Maximum	Setdown Force, kN,
туре	in	mm	in	mm	in	mm	in	mm	more than	more than	pressure, psi	temperature, °F	no more than
PU-M (R) 118-52-70	5 ½; 5 ¾	139.7; 146.1	4.646	118	2.047	52	2.875 NU	73.03	96.457	205	10150**	266***	80120
PU-M (R) 122-52-70	5 ¾	146.1	4.803	122	2.047	52	2.875 NU	73.03	96.457	211.6	10150**	266***	80120
PU-M (R) 140-60-70	6 5⁄8	168.3	5.512	140	2.362	60	2.875 NU	73.03	98.03	297.6	10150**	266***	80120

• * Optional box (top) and pin (bottom) thread connections are available.

- ** Differential pressure ratings 5076 psi; 7252 psi.
- *** High-temperature (302 °F) model of the packer is available on request.
- Higher performance version available for hostile environments K2 Model.
- Other sizes of PU-M (R) packer are available on request.

MULTITECH PM-D-YaG hydraulic set packer

Application

- Squeeze cementing;
- Well interventions requiring one-time isolation;
- Water injection in injection wells;
- Horizontal wells.

Allows for long-term isolation of zones in the production casing and protects the production casing from dynamic and hostile downhole conditions in the course of bottomhole zone treatment.

- Set in the well hydraulically by creating pressure in the tubing;
- Set by dropping a ball and applying pressure or with a release tool assembly;
- To release the packer pull the tubing string upward;
- Responsive to upward and downward differential pressure;
- Shallow depth setting capability without minimum setdown weight limit of the tubing;
- Hydraulic anchor is not exposed to the flow of the pumped fluid;
- High setting precision;
- Tool's components are plated or coated with phosphate.



	Casi						Packer	size					
Type	Casil	ng size	0	D	10)	Connec	tion*	longth in no	Waight Ibc no	Maximum	Maximum	Setdown Force,
Туре	in	mm	in	mm	in	mm	in	mm	more than	more than	pressure, psi	temperature, °F	kN, no more than
PM-D-YAG 112-50-100	5 ½; 5 ¾	139.7; 146.1	4.41	112	1.969	50	2.875 NU	73.03	76.181	180.78	14500**	266***	80120
PM-D-YAG 114-50-100	5 ½	139.7	4.49	114	1.969	50	2.875 NU	73.03	76.181	185.2	14500**	266***	80120
PM-D-YAG 116-50-100	5 ½; 5 ¾	139.7; 146.1	4.567	116	1.969	50	2.875 NU	73.03	76.181	189.6	14500**	266***	80120
PM-D-YAG 118-50-100	5 ½; 5 ¾	139.7; 146.1	4.646	118	1.969	50	2.875 NU	73.03	76.181	194	14500**	266***	80120
PM-D-YAG 122-50-100	5 ¾	146.1	4.803	122	1.969	50	2.875 NU	73.03	76.181	200.6	14500**	266***	80120
PM-D-YAG 136-60-100	6 %	168.3	5.354	136	2.362	60	2.875 NU	73.03	80.7	242.51	14500**	266***	80120
PM-D-YAG 140-60-100	6 ⅔	168.3	5.512	140	2.362	60	2.875 NU	73.03	80.7	260.15	14500**	266***	80120
PM-D-YAG 142-60-100	6 %	168.3	5.59	142	2.362	60	2.875 NU	73.03	80.7	271.17	14500**	266***	80120
PM-D-YAG 145-60-100	6 ¾; 7	168.3; 177.8	5.709	145	2.362	60	2.875 NU	73.03	80.7	308.65	14500**	266***	80120
PM-D-YAG 150-60-100	7.0	177.8	5.906	150	2.362	60	2.875 NU	73.03	82.48	321.88	14500**	266***	80120

• * Optional box (top) and pin (bottom) thread connections are available.

- ** Differential pressure ratings 5076 psi; 7252 psi; 10150 psi.
- *** High-temperature (302 °F) model of the packer is available on request.
- Higher performance version available for hostile environments K2 Model.
- Other sizes of PM-D-YaG packer are available on request.

MULTITECH PVM-O-KV feed-through axial mechanical set packer

Designed for ESP completions with production casing leak sections above payzone.

Application

- Water shut-off in the production casing above ESP;
- Multi-packer assemblies during dual completions.

Optional Design

- Packer with a gas vent;
- Packer with a gas vent and a chemical injection port.

- To set the packer pull the tubing string upward and then lower it (tubing rotation is not required);
- To release the packer pull the tubing string upward;
- Two symmetrical J-slots provide secure setting in deviated wells;
- Swivel ensures that the packer and the electric wireline are correctly positioned;
- Simple and rugged packing element;
- Easy to use and maintain;
- Multiple use within one tripping;
- High maintainability;
- Tool's components are plated or coated with phosphate.



							Packe	er size							
	Casi	ng size	0	D		·		Connec	tion*				Maximum	Maximum	Setdown Force,
Туре			0	U	U		Вох		Pin	l	Length, in,	Weight,	pressure,	tempe-	kN, no more
	in	mm	in	mm	in	mm	in	mm	in	mm	than	more than	psi	rature, °F	than
PVM-O (KV) 112-35-50	5 ½; 5 ¾	139.7; 146.1	4.41	112	1.378	35	2.875 NU	73.03	2.875 NU	73.03	96.969	149.91	7252**	266***	80120
PVM-O (KV) 114-35-50	5 ½	139.7	4.49	114	1.378	35	2.875 NU	73.03	2.875 NU	73.03	96.969	154.3	7252**	266***	80120
PVM-O (KV) 116-35-50	5 ½; 5 ¾	139.7; 146.1	4.567	116	1.378	35	2.875 NU	73.03	2.875 NU	73.03	96.969	154.3	7252**	266***	80120
PVM-O (KV) 118-35-50	5 ½; 5 ¾	139.7; 146.1	4.646	118	1.378	35	2.875 NU	73.03	2.875 NU	73.03	95.669	189.6	7252**	266***	80120
PVM-O (KV) 122-35-50	5 ¾	146.1	4.803	122	1.378	35	2.875 NU	73.03	2.875 NU	73.03	96.81	191.8	7252**	266***	80120
PVM-O (KV) 136-45-50	6 ⁵⁄s	168.3	5.354	136	1.772	45	3.5 NU	88.9	2.875 NU	73.03	97.087	233.7	7252**	266***	80120
PVM-O (KV) 140-52-50	6 ⁵⁄s	168.3	5.512	140	2.047	52	3.5 NU	88.9	2.875 NU	73.03	97.99	233.7	7252**	266***	80120
PVM-O (KV) 142-52-50	6 5∕s	168.3	5.59	142	2.047	52	3.5 NU	88.9	2.875 NU	73.03	97.99	238.1	7252**	266***	80120
PVM-O (KV) 145-52-50	6 %; 7	168.3; 177.8	5.709	145	2.047	52	3.5 NU	88.9	2.875 NU	73.03	97.99	242.51	7252**	266***	80120
PVM-O (KV) 150-62-50	7.0	177.8	5.906	150	2.44	62	3.5 NU	88.9	2.875 NU	73.03	104.33	264.6	7252**	266***	80120
PVM-O (KV) 190-62-50	8 %	219.1	7.48	190	2.44	62	3.5 NU	88.9	2.875 NU	73.03	109.763	407.86	7252**	266***	120160

• * Optional box (top) and pin (bottom) thread connections are available.

■ ** Differential pressure rating — 7252 psi.

- *** High-temperature (302 °F) model of the packer is available on request.
- Higher performance version available for hostile environments K2 Model.
- If ordering a packer with a hydraulic anchor, please indicate the anchor option (YaG1, YaG2 or YaG3) following the packer's model.
- Other sizes of PVM-O (KV) packer are available on request.
- The size of KRBP matching power cable 0.59x1.472 (0.118x0.63).

Other sizes of the packer are available on request to fit different power cables (as per GOST R 51777-2001).

MULTITECH PVM-O (KV) M feed-through axial mechanical set packer, upgraded

Application

- Water shut-off in the production casing above ESP;
- Multiple-packer assemblies during dual completions.

Designed for ESP completions with production casing leak sections above payzone.

- To set the packer pull the tubing string upward and then lower it (tubing rotation is not required);
- To release the packer pull the tubing string upward;
- Two symmetrical J-slots provide secure setting in deviated wells;
- Gas vent in PVM-O (KV) M (GT) packer serves to evacuate gas from the sealbore;
- Packer bore of a larger diameter;
- Damage-free installation of electric conduit;
- Swivel ensures that the packer and the electric wireline are correctly and securely positioned;
- Simple and rugged packing element;
- Easy to use and maintain;
- Multiple use within one tripping;
- High maintainability;
- Tool's components are plated or coated with phosphate.



								Packer	size						
	Cas	ing size						Connec	tion*				Maximum	Maximum	Catalana Fama
Туре			0				Bo	x	Pin	1	Length, in,	Weight, lbs,	pressure,	tempe-	kN, no more than
	in	mm	in	mm	in	mm	in	mm	in	mm	than	than	psi	rature, °F	
PVM-O (KV) M 118-50-50	5 ½; 5 ¾	139.7; 146.1	4.646	118	1.969	50	2.875 NU	73.03	2.875 NU	73.03	95.669	189.6	7252**	266***	80120
PVM-O (KV) M 122-50-50	5 ¾	146.1	4.803	122	1.969	50	2.875 NU	73.03	2.875 NU	73.03	96.81	191.8	7252**	266***	80120
PVM-O (KV) M 140-60-50	6 5⁄8	168.3	5.512	140	2.362	60	3.5 NU	88.9	2.875 NU	73.03	97.99	233.7	7252**	266***	80120
PVM-O (KV) M 142-60-50	6 5⁄8	168.3	5.59	142	2.362	60	3.5 NU	88.9	2.875 NU	73.03	97.99	238.1	7252**	266***	80120
PVM-O (KV) M 145-60-50	6 ⅔; 7	168.3; 177.8	5.709	145	2.362	60	3.5 NU	88.9	2.875 NU	73.03	97.99	242.51	7252**	266***	80120
PVM-O (KV) M 150-60-50	7.0	177.8	5.906	150	2.362	60	3.5 NU	88.9	2.875 NU	73.03	104.33	264.6	7252**	266***	80120

- * Optional box (top) and pin (bottom) thread connections are available.
- ** Differential pressure rating 7252 psi.
- *** High-temperature (302 °F) model of the packer is available on request.
- Higher performance version available for hostile environments K2 Model.
- Other sizes of PVM-O (KV) M packer are available on request.
- The size of KRBP matching power cable 0,118 x 0,98.
- Other sizes of the packer are available on request to fit different power cables (as per GOST R 51777-2001).



MULTITECH PU (KV) feed-through compression packer

Application

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- Multiple-packer assemblies for dual completions;
- As part of Packer Assembly KOUS-DPK-ORZ (KZ)/M.

Designed for protection of production casing from injected fluid, ESP completions and isolation of production casing leak sections above ESP.

- The packer is set by sealing in the bore of the lower packer;
- Easy setting;
- Reliable operation in deviated wells;
- Swivel ensures that the packer and the electric wireline are correctly and securely positioned;
- Through-bore capability to feed power supply cables to downhole tool assemblies;
- Tool's components are plated or coated with phosphate.



								Packer	size						
	Cas	ing size						Conne	ction*				Maximum	Maximum	Satdown Force
Туре		1					Вох		Pin		Length, in,	Weight, Ibs,	pressure,	tempe-	kN, no more than
	in	mm	in	mm	in	mm	in	mm	in	mm	than	than	psi	rature, °F	,
PU (KV) 118-35-50	5 ½; 5 ¾	139.7; 146.1	4.646	118	1.378	35	2.875 NU	73.03	2.875 NU	73.03	95.669	189.6	7252**	266 ***	80120
PU (KV) 122-35-50	5 ¾	146.1	4.803	122	1.378	35	2.875 NU	73.03	2.875 NU	73.03	96.81	191.8	7252**	266 ***	80120
PU (KV) 140-52-50	6 5⁄8	168.3	5.512	140	2.047	52	3.5 NU	88.9	2.875 NU	73.03	97.99	233.7	7252**	266 ***	80120
PU (KV) 142-52-50	6 5⁄8	168.3	5.59	142	2.047	52	3.5 NU	88.9	2.875 NU	73.03	97.99	238.1	7252**	266 ***	80120

• * Optional box (top) and pin (bottom) thread connections are available.

- ** Differential pressure rating 7252 psi.
- *** High-temperature (302 °F) model of the packer is available on request.
- Higher performance version available for hostile environments K2 Model.
- Other sizes of the packer are available on request.
- The size of KRBP matching power cable 0.59x1.472 (0.118x0.63).
- Other sizes of the packer are available on request to fit different power cables (as per GOST R 51777-2001).

MULTITECH PU-M (KV)

feed-through compression mechanical set packer

Application

Multiple-packer assemblies for intrawell injection (from bottom to top).

Designed for ESP completions and isolation of production casing leak sections above ESP.

- The packer is set by sealing in the bore of the lower packer;
- Easy setting;
- Reliable operation in deviated wells;
- Swivel ensures that the packer and the electric wireline are correctly and securely positioned;
- Tool's components are plated or coated with phosphate.



	6						Packer	size					
Type	2	sing size	0	D	10)	Connec	tion*	Lawath in ma	Mainht line we	Maximum	Maximum	Setdown Force,
Type	in	mm	in	mm	in	mm	in	mm	more than	more than	pressure, psi	tempe-rature, °F	kN, no more than
PU-M (KV) 118-35-35	5 ½; 5 ¾	139.7; 146.1	4.646	118	1.378	35	2.875 NU	73.03	140.71	277.78	5076**	266***	80120
PU-M (KV) 122-35-35	5 ¾	146.1	4.803	122	1.378	35	2.875 NU	73.03	140.71	282.19	5076**	266***	80120
PU-M (KV) 140-50-35	6 5⁄8	168.3	5.512	140	1.969	50	3.5 NU	88.9	97.244	343.92	5076**	266***	80120
PU-M (KV) 142-50-35	6 5⁄8	168.3	5.59	142	1.969	50	3.5 NU	88.9	97.244	348.3	5076**	266***	80120

• * Optional box (top) and pin (bottom) thread connections are available

• ** Differential pressure rating — 7252 psi.

• *** High-temperature (302 °F) model of the packer is available on request.

• Higher performance version available for hostile environments - K2 Model.

• Other sizes of the packer are available on request.

■ The size of KRBP matching power cable — 0.59x1.472 (0.118x0.63).

Other sizes of the packer are available on request to fit different power cables (as per GOST R 51777-2001).

MULTITECH P-PT bridge plug

Application

- Setting bridge plugs and temporary isolation of formations;
- Well plugging and abandonment;
- Squeeze cementing above the tool.

Designed for zonal isolation of production casing.

Main Features and Benefits

Simple design;

- Easy delivery and installation due to compact design;
- Average milling time 5–6 hours.


Specifications

	6-1				Pa	acker size						
	Cas	sing size	C	D	Connec	tion*	Longth in	Weight Ibs	Maximum	Pressure Required To Move Plug	Maximum	Setdown Force, kN.
Туре	in	mm	in	mm	in	mm	no more than	no more than	pressure, psi	Packer from Shipping To Working Position, psi	temperature, °F	no more than
P-PT 118-50	5 ½; 5 ¾	139.7; 146.1	4.646	118	2.875 NU	73.03	30	57.32	7252**	1740	266***	80120
P-PT 120-50	5 ¾	146.1	4.724	120	2.875 NU	73.03	30	61.73	7252**	1740	266***	80120
P-PT 136-50	6 5⁄8	168.3	5.354	136	2.875 NU	73.03	30	83.776	7252**	1740	266***	80120
P-PT 140-50	6 5⁄8	168.3	5.512	140	2.875 NU	73.03	30	94.8	7252**	1740	266***	80120

• * Optional box (top) thread connections are available.

■ ** Differential pressure rating — 7252 psi.

• *** High-temperature (302 °F) model of the packer is available on request.

• Other sizes of P-PT packer are available on request.

• Higher performance version available for hostile environments - K2 Model.

MULTITECH Packers and Associated Downhole Tools



MULTITECH YaG hydraulic anchor

Prevents downhole equipment from movement inside the production casing during well interventions and stimulations.

Application

- Mechanically and hydraulically set packer assemblies;
- Tubing assemblies.

Main Features and Benefits

- Set in the well with hydraulically pressurized tubing string;
- KV-series anchors are equipped with a lateral groove to accommodate power cable;
- Slips with high-performance grip on the casing;
- Easy assembly and disassembly;
- YaG1 anchor 6 slips, YaG2 anchor 9 slips, YaG3 anchor 15 slips;
- No screws used to secure retaining plates (dovetail);
- Tool's components are plated or coated with phosphate.



Specifications

	Cas	ing size						Anchor s	ize			
Туре	Cas	ang size	0	D)	Connec	tion*	length in no more	Weight Ibs	Maximum	Maximum
.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	in	mm	in	mm	in	mm	in	mm	than	no more than	pressure, psi	temperature, °F
YAG1/YAG2/YAG3 80-34-100	4.0	101.6	3.15	80	1.339	34	2.375 NU	60.33	13.7/16.457/19.685	13.2/15.4/17.6	14500**	266***
YAG1/YAG2/YAG3 82-34-100	4.0	101.6	3.23	82	1.339	34	2.375 NU	60.33	13.7/15.669/19.685	15.4/19.8/22	14500**	266***
YAG1/YAG2/YAG3 88-38-100	4 1/2	114.3	3.465	88	1.496	38	2.375 NU	60.33	13.7/15.669/19.685	17.6/24.3/26.4	14500**	266***
YAG1/YAG2/YAG3 92-38-100	4 1/2	114.3	3.622	92	1.496	38	2.375 NU	60.33	13.7/15.669/19.685	17.6/24.3/26.4	14500**	266***
YAG1/YAG2/YAG3 98-42-100	4 ½; 5.0	114.3; 127.0	3.86	98	1.654	42	2.875 NU	73.03	15/17.756/22.835	19.8/33/35.3	14500**	266***
YAG1/YAG2/YAG3 101-42-100	5.0	127.0	3.976	101	1.654	42	2.875 NU	73.03	15/17.756/22.835	22/35.3/37.5	14500**	266***
YAG1/YAG2/YAG3 112-52-100	5 ½; 5 ¾	139.7; 146.1	4.41	112	2.047	52	2.875 NU	73.03	15/17.756/22.835	28.7/37.5/39.7	14500**	266***
YAG1/YAG2/YAG3 114-52-100	5 ½	139.7	4.49	114	2.047	52	2.875 NU	73.03	15/17.756/22.835	30.9/37.5/39.7	14500**	266***
YAG1/YAG2/YAG3 116-52-100	5 ½; 5 ¾	139.7; 146.1	4.567	116	2.047	52	2.875 NU	73.03	15/17.756/22.835	33/39.7/46.3	14500**	266***
YAG1/YAG2/YAG3 118-52-100	5 ½; 5 ¾	139.7; 146.1	4.646	118	2.047	52	2.875 NU	73.03	15/17.756/22.835	35.3/44.1/52.9	14500**	266***
YAG1/YAG2/YAG3 122-52-100	5 ¾	146.1	4.803	122	2.047	52	2.875 NU	73.03	15/17.756/22.835	35.3/47.4/57.3	14500**	266***
YAG1/YAG2/YAG3 136-60-100	6 %	168.3	5.354	136	2.362	60	2.875 NU	73.03	15/17.756/22.835	41.9/48.5/72.7	14500**	266***
YAG1/YAG2/YAG3 140-60-100	6 %	168.3	5.512	140	2.362	60	2.875 NU	73.03	15/17.756/22.835	46.3/63.9/77.2	14500**	266***
YAG1/YAG2/YAG3 142-60-100	6 5⁄8	168.3	5.59	142	2.362	60	2.875 NU	73.03	15/17.756/22.835	48.5/66.1/79.4	14500**	266***
YAG1/YAG2/YAG3 145-60-100	6 5⁄8; 7	168.3; 177.8	5.709	145	2.362	60	2.875 NU	73.03	15/17.756/22.835	48.5/66.1/79.4	14500**	266***
YAG1/YAG2/YAG3 150-60-100	7.0	177.8	5.906	150	2.362	60	2.875 NU	73.03	15/17.756/22.835	55.1/75/88.2	14500**	266***

• * Optional box (top) and pin (bottom) thread connections are available.

- ** Differential pressure ratings 5076 psi; 7252 psi; 10150 psi; 14500 psi.
- *** High-temperature (302 °F) model of the anchor is available on request.
- Higher performance version available for hostile environments K2 Model.
- Supplied with spare parts, tools and accessories.
- Other sizes of the hydraulic anchor are available on request.

MULTITECH YaM mechanical anchor

Creates compression upon production casing and resists upward and downward movement of tubing.

Application

Prevents tubing hanger from twist-off and dropping during SRP or PCP completions.

Main Features and Benefits

- Set in the well mechanically by axial movement of the tubing (no rotation required), brought into a run-in position by an upward pull of the tubing;
- Multiple use within one tripping;
- Simple design;
- High maintainability;
- Tool's components are plated or coated with phosphate.



Specifications

		!					Anch	or size		
Type	Casii	ng size	C	DD	I	D	Conne	ection*		
Type	In	mm	in	mm	in	mm	in	mm	Length, in, no more than	Weight, lbs, no more than
YAM 118-52-50	5 ½; 5 ¾ 139.7; 146.1		4.646	118	2.047	52	2.875 NU	73.03	70.866	92.6
YAM 122-52-50	5 ¾	146.1	4.803	122	2.047	52	2.875 NU	73.03	70.866	99.2
YAM 140-62-50	6 5/8	168.3	5.512	140	2.44	62	2.875 NU	73.03	72.835	132.3

• * Optional box and pin thread connections are available.

■ Higher performance version available for hostile environments – K2 Model.

• Other sizes of the mechanical anchor are available on request.





MULTITECH Valves and Downhole Accessories

MULTITECH KU-O axial unloader valve

Designed for pressure equalization between the annulus and the tubing.

Application

- Fracturing, acid fracturing;
- Perforation;
- Other operations upon which circulation between the annulus and the tubing should be ensured.

Main Features and Benefits

- Valve opening triggered by an upward pull of the tubing;
- Equipped with a pin to convey torque onto the assembly below the valve;
- Valve closing triggered by a downward movement of the tubing;
- Adjustable triggering settings;
- Tool's components are plated or coated with phosphate;
- Simple design.



Specifications

	C araina						Valve size	9					
Tuno	Casin	g size	0	D		ID	Connec	tion*		Mainha Ilha wa	Working	Total Flow Area	Maximum
Type	In	mm	in	mm	in	mm	in	mm	more than	more than	Pressure, psi	of Side Ports, in ²	temperature, °F
KU-O 82-40-35	3 1/2	88	3.23	82	1.575	40	2.375 NU	60.33	21.38	26.5	5076**	0.53	266***
KU-O 101-42-35	4 3/8	112	3.976	101	1.654	42	2.875 NU	73.03	21.38	33	5076**	0.62	266***
KU-O 112-52-35	4 5/8	118	4.41	112	2.047	52	2.875 NU	73.03	21.73	46.3	5076**	0.81	266***
KU-O 114-62-35	4 3/4	120	4.49	114	2.44	62	2.875 NU	73.03	23.15	46.3	5076**	0.81	266***
KU-O 136-76-35	5 3/4	144	5.354	136	2.992	76	3.5 NU	88.9	27.52	55.1	5076**	0.84	266***

• * Optional box (top) and pin (bottom) thread connections are available.

• ** Working pressure rating may be increased to 7252 psi; 10150 psi.

- *** High-temperature (302 °F) model of the valve is available on request.
- Valve actuation force of an upward tubing pull can be adjusted in the range of 2205...13228 lbs per customer request.
- Higher performance valve available for hostile environments K2 Model.
- Other sizes of the valve are available on request



MULTITECH KCP circulating valve

Application

- Well testing;
- Well circulation;
- Removal of wax deposits;
- Other downhole operations in oil, gas and gas condensate wells.

YaM

Specifications

Provides communication between the tubing and the annulus.

Main Features and Benefits

- Opening and closing operations are accomplished with a shifting tool and a jar on wireline or coiled tubing;
- Utilized as a component of various downhole assemblies;
- Setting above and below the packer;
- Tool's components are plated or coated with phosphate.

					Valve siz	e					
Type	0	D	11	ט	Conne	ction*	Law at the second		Working	Total Flow Area of Side	Maximum
Туре	in	mm	in	mm	in	mm	no more than	no more than	Pressure, psi	Ports, in ²	temperature, °F
KCP-1.87-35	3.346	85	1.87	47.53	2.375 NU	60.33	37.13	55.1	5076**	3.1	266***
KCP-2.313-35	3.7	94	2.313	58.75	2.875 NU	73.03	37.795	68.34	5076**	3.88	266***
KCP-2.25-35	4.134	105	2.25	57.15	2.875 NU	73.03	39.173	88.18	5076**	5.43	266***
KCP-3.313-35	5.315	135	3.313	84.15	4.5 NU	114.3	35.551	94.80	5076**	7.91	266***

• * Optional box (top) and pin (bottom) thread connections are available.

• ** Working pressure rating may be increased to 7252 psi.

• *** High-temperature (302 °F) model of the valve is available on request.

■ Higher performance valve available for hostile environments - K2 Model.

• Other sizes of the valve are available on request



MULTITECH T shifting tool

Serves to open and close circulating valve.

Specifications

Turne	0	D	OD (with slip	os engaged)	Conr	nection		Mainte lles us more than
туре	In	mm	in	mm	in	mm	Length, in, no more than	weight, ibs, no more than
T 54.8-65.8	2.157	54.8	2.59	65.8	UNS 23.825	SH 16	15.079	8.82
T 80.75-93.5	3.179	80.75	3.681	93.5	UNS 27.000	SH 19	16.142	22

• Higher performance shifting tool available for hostile environments - K2 Model.

• Other sizes of the tool are available on request.

MULTITECH YaSS mechanical jar

Serves to open and close circulating valve.

Application

Tubing strings with wireline-set downhole assemblies.

Specifications

Turne	0	D	Fishing neck	Diameter	Piston Strok	e Length, no more than	Connec	tion	Longth in no more than	Maight the we were then
туре	In	mm	in	mm	in	mm	in	mm	Length, in, no more than	weight, ibs, no more than
YAM-38.1 K1	1.5	38.1	1.5	38.1	34.252	870	UNS 23.825	SH 16	57.08	24.46
YAM-47.5 K1	1.87	47.5	1.752	44.5	34.252	870	UNS 27.000	SH 19	57.08	35.3

■ Higher performance jar available for hostile environments – K2 Model.

• Other sizes of the jar are available on request.

MULTITECH KP circulating sub

Application

- Subsequent swabbing in two or more payzones;
- Equalization of pressure in the annulus and in the tubing;
- Chemical treatment of wax deposits.

Specifications

Provides communication between the annulus and the tubing during well testing and completion.

Main Features and Benefits

- Actuated at the next increase of hydraulic pressure in the annulus;
- Adjustable pressure triggering setting;
- Tool's components are plated or coated with phosphate.

	Casim						Valve siz	ze						
Type	Casin	g size	0)	ID		Connec	tion*	Longth in no	Maight Iba	Valve Opening Differential	Working	Total Flow	Maximum
Type	In	mm	in	mm	in	mm	in	mm	more than	no more than	Pressure, psi	Pressure, psi	Ports, in ²	°F
KP-NKT 73-114-52-35	5 1/2	139.7	4.49	114	2.047	52	2.875 NU	73.03	29.33	57.32	1015-1450	5076**	2.17	266***
KP-NKT 73-122-60-35	5 ⅔	146.1	4.803	122	2.362	60	2.875 NU	73.03	29.61	61.73	1015-1450	5076**	2.56	266***
KP-NKT 73-136-60-35	6 ⅔	168.3	5.354	136	2.362	60	2.875 NU	73.03	32.13	88.18	1015-1450	5076**	2.91	266***

• * Optional box (top) and pin (bottom) thread connections are available.

• ** Working pressure rating may be increased to 7252 psi.

• *** High-temperature (302 °F) model of the valve is available on request.

• Higher performance valve available for hostile environments - K2 Model.

Other sizes of the valve are available on request



MULTITECH KZ downhole flow control valve

Allows for individually regulated volumes of fluid be injected into two isolated zones through a single tubing string.

Main Features and Benefits

- Body design allows for optimum outflow to resist casing washouts;
- Volume of fluid injected from each formation can be adjusted by selecting a choke of a different size;
- Metering of injected volume;
- Retrievable sleeve distributes injected fluid between the zones;
- Sleeve is effectively sealed with packing rings;
- Sleeve retrieval is accomplished with standard fishing tools on wireline.

						Valve size				
Туре	C	D	10)	Conne	ction*			Working Pressure psi	Maximum temperature °E
	in	mm	in	mm	in	mm	Length, in, no more than	Weight, lbs, no more than	working riessure, psi	Maximum temperature, P
KZ 114-35	4.49	114	2.17	55	2.875 NU	73.03	17.68	26.46	5076**	266***

• * Optional box (top) and pin (bottom) thread connections are available.

• ** Working pressure rating may be increased to 7252 psi.

• *** High-temperature (302 °F) model of the valve is available on request.

- Higher performance valve available for hostile environments K2 Model.
- Other sizes of the valve are available on request.



Specifications

Application

Water injection wells;

Dual injection;Intrawell injection.

MULTITECH Valves and Downhole Accessories

MULTITECH KCG hydraulic circulating valve

Provides communication between the annulus and the tubing

Application

Well testing;

- Well circulation;
- Large-volume fracturing;

Specifications

• Other downhole operations in oil, gas and gas condensate wells.

Main Features and Benefits

- Durable design to resist proppant treatment and high pressure circulation;
- Opening is actuated by the pressure in the annulus;
- Adjustable valve opening pressure setting;
- Utilized as a component of various downhole assemblies;
- Tool's components are plated or coated with phosphate.

						Valve size				
Type	0	D	ID)	Connec	tion*			Working Prossura psi	Maximum tomporaturo °E
Туре	in	mm	in	mm	in	mm	Length, in, no more than	Weight, lbs, no more than	working Fressure, psi	Maximum temperature, r
KCG 122-60-70	4.803	122	2.362	60	2.875 NU	73.03	53.35	147.71	10150**	266***
KCG 145-74-70	5.709	145	2.913	74	3.5 NU	88.9	53.35	150.80	10150**	266***
KCG 152-74-70	5.984	152	2.913	74	3.5 NU	88.9	53.35	156.53	10150**	266***

• * Optional box (top) and pin (bottom) thread connections are available.

** Working pressure rating may be increased to 14500 psi.

• *** High-temperature (302 °F) model of the valve is available on request.

Higher performance valve available for hostile environments - K2 Model.

• Other sizes of the valve are available on request.



MULTITECH KCP V/N circulating valve

Application

- Single-trip selective stimulation during dual completions;
- Selective inflow performance test;
- Well testing;
- Multizone completion assemblies for subsequent or dual reservoir stimulation;
- Subsequent swabbing in two or more payzones.

Provides fluid (gas) circulation between the annulus and the tubing during well interventions.

Main Features and Benefits

- KCP-V top valve designed to run closed;
- KCP-N bottom valve designed to run open;
- Safety shear pins to prevent premature valve opening or closing;
- Lowered in the well closed;
- Safety pins allow for opening pressure regulation to prevent premature opening;
- Easily actuated by dropping a ball in the tubing and causing pressure to rise;
- Tool's components are plated or coated with phosphate.

					Valve size							
Type	OD)	ID		Connec	tion*	Length, in,	Maight lbs	Valve Opening Differential	Working Pressure,	Total Flow Area	Maximum
туре	in	mm	in	mm	in	mm	no more than	no more than	Pressure, psi	psi	of Side Ports, in ²	temperature, °F
KCP-V 122-54-35	4.803	122	2.126	54	2.375 NU	60.33	29.13	67.24	1160-2175	5076**	4.81	266***
KCP-N 108-45-35	4.252	108	1.772	45	2.375 NU	60.33	24.57	55.12	1160-2175	5076**	2,40	266***

• * Optional box (top) and pin (bottom) thread connections are available.

- ** Working pressure rating may be increased to 7252 psi.
- *** High-temperature (302 °F) model of the valve is available on request.
- Higher performance valve available for hostile environments K2 Model.
- Other sizes of the valve are available on request







MULTITECH

MULTITECH KCP (U) circulating (fullbore) valve

Provides isolation of concentric tubing strings during dual completion.

Application

- Straddle packer assemblies for dual injection;
- Straddle packer assemblies for dual injection and dual production;
- Other well interventions.

Main Features and Benefits

- Tubing tension slack-off;
- Compensation for thermal expansion of the tubing;
- Secure and tight connection between the inner tubing string and the valve;
- Optional increased number of ports for larger-volume injection;
- Wash ports designed to prevent production casing washout;
- Tool's components are plated or coated with phosphate.

Туре	Casir	ng size	Nor Interna	ninal al Tubing ID	0[)	ID)	Valve Conne	size ction*	Length, in,	Weight,	Working Pressure,	Max M Trave more	andrel I, no than	Total Flow Area	Maximum
	in	mm	in	mm	in	mm	in	mm	in	mm	no more than	lbs, no more than	psi	in	mm	of Side Ports, In-	temperature, *F
KCP (U) 108-35-35	4 5/8	117.5	1.654	42	4.252	108	1.378	35	3.5 NU	88.9	60.24	52.9	5076**	47.244	1200	4.81	266***
KCP (U) 108-40-35	4 5/8	117.5	1.89	48	4.252	108	1.575	40	3.5 NU	88.9	60.24	52.9	5076**	47.244	1200	4.81	266***

• * Optional thread connections are available to match.

- ** Working pressure rating may be increased to 7252 psi.
- *** High-temperature (302 °F) model of the valve is available on request.
- Higher performance valve available for hostile environments K2 Model.



Specifications

MULTITECH KGP gas vent valve

Application

Feed-through packer assembly;

Specifications

- ESP-operated wells with high GOR;
- Enhanced oil recovery through gas lift stimulation.

Provides withdrawal of gas in wells with high annulus pressure and reduces backpressure.

Main Features and Benefits

- Simple design;
- Tool's components are plated or coated with phosphate;
- KGPP valve is equipped with a lateral groove to accommodate power cable.

	Garia	Casing size					Valve size				Ch a ha					
Тура	Casin	ig size	0	OD)	Connec	tion*	Level in a		Споке	size	Valve Opening	Working	Total Flow	Maximum
Туре	In	mm	in mm i		in	mm	in	mm	more than	no more than	in	mm	Pressure, psi	psi	Ports, in ²	temperature, °F
KGP 108-62	4 5/8	117.5	4.252	108	2.441	62	2.875 NU	73.03	9.291	8.8	-	-	1.45		0.06	266**
KGPP 100-50	4 ¾	120	3.937	100	1.969	50	2.875 NU	73.03	16.221	20.9	0.315	8	1.45	7252	-	266**

• * Optional thread connections are available to match.

 \blacksquare ** High-temperature (302 °F) model of the valve is available on request.

■ Higher performance valve available for hostile environments – K2 Model.

• Other sizes of KGP and KGPP valve are available on request.





MULTITECH KKO tester valve

Application

- Oil production;
- Squeeze cementing;
- Other well interventions.

Enables pressure testing of the tubing or drilling string.

Main Features and Benefits

- Set in a seat of the sub or sent down the tubing string:
- the valve is circulated to a seat inside the tubing;
- the valve is set in the tubing with a wireline running tool;
- Two retrieval options available:
- circulating out by pumping fluid in the annulus;
- with wireline fishing tools;
- Alloy-made test dart allows for quick valve pumpout;
- Simple design;
- Tool's components are plated or coated with phosphate.

Туре	0	D	Conn	ection*		Mainhe lles us many them	Working pressure, psi
	in	mm	in mm		Length; In, no more than	weight, ibs, no more than	
KKO NKT V-60-43-35	1.693	43	2.375 EU	60.33	5.9	6.06	5076**
KKO NKT V-73-47.63-35	1.875	47.63	2.875 EU	73.03	6.14	8.8	5076**
KKO NKT V-89-60-35	2.362	60	3.5 EU	88.9	7.68	16.27	5076**

Specifications

• * Optional box (top) and pin (bottom) thread connections are available.

• ** Working pressure rating may be increased to 7252 psi.

• Higher performance valve available for hostile environments - K2 Model.

• Other sizes of the valve are available on request.



MULTITECH KO (M)

Application

ESP-operated wells;

• Other well interventions requiring temporary isolation of the tubing string.

Provides temporary isolation of the tubing string to allow circulation or chemical injection below.

Main Features and Benefits

- Allows direct circulation through the pump or below the valve;
- Doesn't restrict cross-flows of produced fluid;
- Holds liquid column in the tubing string acting as a check valve;
- With differential pressure achieved, bypass opens to establish communication across the valve;
- Tool's components are plated or coated with phosphate.

	Casing size						Valve	size			Valve Openin	g Differential			
Туре	Casin	ig size	OD		11	D	Connec	tion*	Loughh in no		Pressu	ire, psi	Working	Total Flow Area	Maximum
	In	mm	in	mm	in	mm	in	mm	more than	no more than	from above	from below	psi	in ²	temperature, °F
KO (M) 92-40-35	3 7/8	98.4	3.622	92	1.575	40	2.875 NU	73.03	20.24	33.1	1.45	36.26-50.76	5076**	2.17	266***
KO (M) 108-52-35	4 3/8	111.1	4.25	108	2.05	52	2.875 NU	73.03	20.59	41.89	21.76	36.26-65.27	5076**	2.56	266***

• * Optional box (top) and pin (bottom) thread connections are available.

• ** Working pressure rating may be increased to 7252 psi.

• *** High-temperature (302 °F) model of the valve is available on request.

■ Higher performance valve available for hostile environments — K2 Model.

• Other sizes of the valve are available on request.



Specifications



MULTITECH KI chemical injection mandrel

Application

• Oil, gas and condensate production.

Designed for controlled inhibitor injection dosage in the tubing string or annulus

Main Features and Benefits

- Chemical injection;
- Injection of chemicals from the annulus;
- Rupture disc design;
- Dual-valve system;
- Adjustable actuation pressure;
- Internal flush joint;
- A groove on the housing to accommodate wire or a tube for the downhole tools below.
- Injection of inhibitors in the tubing or annular space

Specifications

- Differential pressure ratings 5076 psi; 7252 psi; 10150 psi
- Working temperature ratings: 266 °F, 302 °F.
- Higher performance valve available for hostile environments K2 Model.



MULTITECH K-UG booster valve

Helps to set a packer (or a multiple packer assembly) when tubing weight can't be conveyed to the packer or setdown weight is not sufficient (at low depths).

Application

- Oil and gas production;
- Squeeze cementing;
- Intrawell injection;
- Dual injection.

Specifications

Main Features and Benefits

- Sufficient packer-setting travel;
- Equipped with a pin to convey torque onto the assembly below the K-UG valve;
- Tool's components are plated or coated with phosphate.

	C s s i s						Valve size				Force Generated	C	Max Mano	drel Travel,		Maximum
Туре	Casing size		OD		ID		Connec	tion*	Length, in,	Weight Ibs	at Differential	Torque.	no mo	re than	Pressure.	temperature.
	in	mm	in	mm	in	mm	in	mm	no more than	no more than	Pressure of 3626 psi, KN	kN∙m	in	mm	psi	°F
K-UG 114-62-35	4 3/4	120.6	4.488	114	2.44	62	2.875 NU	73.03	41.575	101.4	170	25	15.748	400	7252**	266 ***

- * Optional box (top) and pin (bottom) thread connections are available.
- ** Differential pressure ratings 7252 psi; 10150 psi
- *** High-temperature (302 °F) model of the valve is available on request.
- Higher performance valve available for hostile environments K2 Model.
- Other sizes of the valve are available on request.







MULTITECH KO-ZP formation isolation valve

Application

Pump-operated wells utilizing artificial lift method.

Isolates the formation from brine or other weighted completion fluids during remedial work on ESPs.

Main Features and Benefits

- Installed into the collar of the RK-S (Z) On-Off Connector;
- RK-S (Z) on-off connector enables disconnection of the tubing string from the packer assembly and serves as a landing nipple for the KO-ZP valve;
- Pressure actuated opening and closing;
- Multiple open-close cycles;
- KO-ZP valve retrieval is accomplished with wireline or coiled tubing;
- Tool's components are plated or coated with phosphate.

Specifications

- * Differential pressure ratings 5076 psi; 7252 psi; 10150 psi.
- Working temperature ratings: 266 °F, 302 °F.
- Higher performance valve available for hostile environments K2 Model.



MULTITECH RK-G hydraulic on-off connector

Enables disconnection of the tubing string from the packer.

Application

Oil and gas producing wells;

• Other well interventions requiring disconnection of the tubing.

Main Features and Benefits

- Disconnection is achieved hydraulically by dropping a ball and increasing the tubing pressure;
- Comes with a retrieval tool;
- Connection of retrieval tool is accomplished by slacking off the tubing to at least 5 ton;
- Tool's components are plated or coated with phosphate.

Specif	ficati	ions	
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Type	0	D		D	Connec	tion*	length in no	Weight Ibs no more	Working Pressure	Maximum	Maximum weight to unset the Packer with
	in	mm	in	mm	in	mm	more than	than	psi	temperature, °F	the Connector, lbs, no more than
RK-G 114-60-35	4.49	114	2.362	60	2.875 NU	73.03	34.65	77.16	5076**	266***	44090-55120
RK-G 118-60-35	4.646	118	2.362	60	2.875 NU	73.03	34.65	83.776	83.776 5076**		44090-55120
RK-G 140-60-35	5.512	140	2.362	60	2.875 NU	73.03	34.65	101.4	5076**	266***	44090-55120

• * Optional box (top) and pin (bottom) thread connections are available.

- ** Working pressure ratings can be increased to 7252 psi and 10150 psi on special request.
- *** High-temperature (302 °F) model of the connector is available on request.
- Higher performance version available for hostile environments K2 Model.
- Other sizes of the tool are available on request.





MULTITECH RK/RK-S on-off connector

Application

- Well treatment, testing, production, completion and other well interventions requiring disconnection of the tubing string;
- Part of various downhole assemblies.

Enables automatic disconnection (reconnection) of the tubing string from (to) the packer.

Main Features and Benefits

- Right-hand disconnection for RK Connector.
 Disconnection is achieved by a 16-turn right-hand rotation followed by an upward pull of the tubing;
- Left-hand or right-hand disconnection for RK-S Connector per customer request.
 Disconnection is achieved by a quarter right-hand turn followed by an upward pull of the tubing;
- Connection is accomplished automatically once the tubing string is slacked off;
- Shear pins for failure-free running;
- Tool's components are plated or coated with phosphate.



Specifications

Туре	O	D	I	D	Connec	tion*	Length in no	Weight lbs no	Working Pressure	Maximum	Maximum weight to unset the Packer
Туре	in	mm	in	mm	in	mm	more than	more than	psi	temperature, °F	with the Connector, lbs, no more than
RK/RK-S 94-40-35	3.7	94	1.575	40	2.375 NU	60.33	29.53	44.09	5076**	266***	44090-55120
RK/RK-S 105-42-35	4.134	105	1.654	42	2.875 NU	73.03	29.53	55.12	5076**	266***	44090-55120
RK/RK-S 110-52-35	4.33	110	2.047	52	2.875 NU	73.03	29.53	59.5	5076**	266***	44090-55120
RK/RK-S 112-52-35	4.41	112	2.047	52	2.875 NU	73.03	29.53	59.5	5076**	266***	44090-55120
RK/RK-S 114-52-35	4.49	114	2.047	52	2.875 NU	73.03	29.53	59.5	5076**	266***	44090-55120
RK/RK-S 116-52-35	4.567	116	2.047	52	2.875 NU	73.03	29.53	59.5	5076**	266***	44090-55120
RK/RK-S 118-52-35	4.646	118	2.047	52	2.875 NU	73.03	29.53	59.5	5076**	266***	44090-55120
RK/RK-S 122-52-35	4.803	122	2.047	52	2.875 NU	73.03	29.53	59.5	5076**	266***	44090-55120
RK/RK-S 136-60-35	5.354	136	2.362	60	2.875 NU	73.03	31.18	61.7	5076**	266***	44090-55120
RK/RK-S 140-60-35	5.512	140	2.362	60	2.875 NU	73.03	31.18	61.7	5076**	266***	44090-55120
RK/RK-S 142-60-35	5.59	142	2.362	60	2.875 NU	73.03	31.18	61.7	5076**	266***	44090-55120
RK/RK-S 145-60-35	5.709	145	2.362	60	2.875 NU	73.03	31.18	61.7	5076**	266***	44090-55120
RK/RK-S 150-60-35	5.906	150	2.362	60	2.875 NU	73.03	31.18	61.7	5076**	266***	44090-55120
RK/RK-S 205-100-35	8.07	205	3.937	100	4.5 NU	114.3	31.18	97	5076**	266***	44090-55120

• * Optional box (top) and pin (bottom) thread connections are available.

- ** Working pressure ratings can be increased to 7252 psi, 10150 psi and 14500 psi per customer request.
- *** High-temperature (302 °F) model of the connector is available on request.
- Higher performance version available for hostile environments K2 Model.
- Other sizes of the tool are available on request.

MULTITECH RK-S (U) on-off sealing connector

Dual injection, intrawell injection, and dual completion assemblies;

• Other well interventions requiring retrieval of the tubing string.

Provides means of retrieving the production string without unsetting the companion packer below as well as sealed reconnection to the packer.

Main Features and Benefits

- Left-hand or right-hand release per customer request;
- Secure sealing of the polished bore in the housing of the connector lowered in the well with ESP;
- Polished bore has a free travel of 59,06 inch;
- Tool's components are plated or coated with phosphate.

Specificati	ions
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Application

	0	D	I	D	Connec	tion*	length in no	Weight Ibs no	Working	Maximum	Maximum weight to unset the Packer with
Туре	in	mm	in	mm	in	mm	more than	more than	Pressure, psi	temperature, °F	the Connector, lbs, no more than
RK-S (U) 122-60-35	4.803	122	2.362	60	2.875 NU	73.03	66.338	112.4	5076**	266***	44090-55120
RK-S (U) 142-60-35	5.59	142	2.362	60	2.875 NU	73.03	66.338	123.5	5076**	266***	44090-55120

• * Optional box (top) and pin (bottom) thread connections are available.

• ** Working pressure ratings can be increased to 7252 psi, 10150 psi and 14500 psi per customer request.

• *** High-temperature (302 °F) model of the connector is available on request.

• Higher performance version available for hostile environments – K2 Model.

• Other sizes of the tool are available on request.



MULTITECH ZhG hydrostatic sand bailer

Used to remove debris from the bottom of the well (sand, scale, solid particles).

Application

- Failure to establish circulation in the well;
- Circulation is unwanted or harmful for formation.

Main Features and Benefits

- Sand and other debris are sucked up off the bottom with a fluid surge due to differential pressure between the annulus and the tubing;
- Fluid surge into the tubing can be interrupted numerous times by a pickup of the tubing string.

	Casin	g size						Valves	size		Openin	g Travel	Maximum
Туре		-	OD		ID		Conne	ection*	to a state the second state of	Mainta the new second here	•		temperature, °F
	in mm		in	mm	in	mm	in	mm	Length, In, no more than	weight, lbs, no more than	In	mm	
ZHG-90	3 7/8	98.4	3.66	93	2.362	60	2.875 EU	73.03	26.77	50.7	3.543	90	248**

Specifications

• * Optional box (top) and pin (bottom) thread connections are available.

• ** High-temperature (302 °F) model of the sand bailer is available on request.

■ Higher performance version available for hostile environments – K2 Model.

• Other sizes of the tool are available on request.







MULTITECH KOS well cleanup assembly

Used to remove debris from the bottom of the well (sand, scale, solid particles).

Application

- Failure to establish circulation in the well;
- Circulation is unwanted or harmful for formation.

Main Features and Benefits

- Sand and other debris are sucked up off the bottom with a fluid surge due to differential pressure between the annulus and the tubing;
- Tool's components are plated or coated with phosphate.

Assembly components

Mule shoe P;
 Suction valve KV;

Bladed sub P-C;
 Relief valve KN.

		-				Valve	size				
Туре	Casir	ng size	OI	D	Connection*		Length, in,	Weight, lbs,	Relief valve C	pening travel	Maximum
	in mm		in	mm	in	mm	no more than	no more than	in	mm	temperature, r
KOS 89	3 7/8	98.4	3.5	89	2.875 NU	73.03	181.5	240.3	100.4	2550	266**
KOS 112	5	127	4.409	112	2.875 NU	73.03	183.07	319.7	100.4	2550	266**

• * Optional box (top) and pin (bottom) thread connections are available.

- ** High-temperature (302 °F) model of the assembly is available on request.
- Higher performance version available for hostile environments K2 Model.
- Other sizes of the cleaning assembly are available on request.



Specifications

MULTITECH KS side pocket mandrel

Designed for installation and leak-proof fixation of removable inhibitor valves, gas-lift valves, bridge plugs or standalone devices

Application

- Natural flow production or gas lift production;
- Dual (multiple zone) injection;
- Chemical injection;
- Well interventions requiring communication between the tubing and the annulus.

Specifications

Main Features and Benefits

- Eccentric side pocket offers full tubing drift ID;
- KIGS chemical injection valve and PG dummy valve are placed in a side pocket mandrel and retrieved with slickline or coil tubing..

					-			Mandr	el size					Sealbore Diam	neter to Accept		
Туре	Casi	Casing size		Maximum height		imum dth	10	D	Connect	tion*	Length,	Weight,	Working	Injection Valve, E Circulating Valv	Dummy Valve and e, no more than	Maximum Joint	Maximum
	in	mm	in	mm	in	mm	in	mm	in	mm	in, no more than	lbs, no more than	Pressure, psi	in	mm	Mandrel, lbs, no more than	temperature, °F
KS-NKT 73-60-35 K1	5 ¾	146.1	4.57	116	3.85	97.8	2.362	60	2.875 NU	73.03	88.19	121.3	5076	1	25.4	99210	266**

• * Optional box and pin thread connections are available.

• ** High-temperature (+150°C) model of the valve is available on request.

■ Higher performance valve available for hostile environments – K2 Model.

• Other sizes of the valve are available on request.



MULTITECH LM magnet tool

Designed to effectively remove metal objects, hard-alloy teeth of roller-cone bits and other ferrous debris from the bottom of oil and gas wells.

Main Features and Benefits

- Magnetic components are made of highly-energized rare-earth permanent magnets;
- Magnets have a three-layer protective coating;
- Designed to enable circulation at the bottom;
- Magnetic effect doesn't spread on the tubing string;
- No depth limitation.

	6	!									
Туре	Casin	ng size	OD		Connection*		longth in no more than	Maight like no more then	Nominal Holding	Maximum	
	in	mm	in	mm	in	mm	Length, in, no more than	weight, ibs, no more than	Capacity, ibs	temperature, 1	
LM 80	3 1/2	88.9	3.15	80	2.375 EU	60.33	28.07	27.34	330.7	266**	
LM 92	3 7/8	98.4	3.622	92	2.875 NU	73.03	28.07	37.5	440.9	266**	
LM 118	4 7/8	123.8	4.646	118	2.875 EU	73.03	28.74	37.5	771.6	266**	

Specifications

• * Optional box (top) and pin (bottom) thread connections are available.

• ** High-temperature (302 °F) model of the valve is available on request.

• Other sizes of the tool are available on request



MULTITECH PB release joint

Designed for safe release of the tubing from the downhole tools below should they become stuck.

Main Features and Benefits

- The string is released by applying right-hand torque (16 turns) followed by a straight pickup of the tubing;
- Reliable sealing elements;
- Tool's components are plated or coated with phosphate.

					Joir	nt size						
_	OD		ID		Connection*				Working	Maximum	Maximum weight When Released from the	
Туре	in	mm	in	mm	in	mm	Length, in, no more than	Weight, lbs, no more than	Pressure, psi	temperature, °F	Packer, lbs, no more than	
PB 89-52-35	3.5	89	2.047	52	2.875 NU	73.03	16.14	22.05	5076**	266***	44090-55120	
PB 95-60-35	3.74	95	2.362	60	2.875 NU	73.03	16.14	24.25	5076**	266***	44090-55120	
PB 108-62-35	4.25	108	2.44	62	3.5 NU	88.9	16.54	30.87	5076**	266***	44090-55120	
PB 118-76-35	4.646	118	2.992	76	3.5 NU	88.9	17.52	35.27	5076**	266***	44090-55120	
PB 145-100-35	5.709	145	3.937	100	4.5 NU	114.3	18.78	46.3	5076**	266***	44090-55120	

Specifications

• * Optional box (top) and pin (bottom) thread connections are available.

• ** Working pressure ratings can be increased to 7252 psi and 10150 psi on special request.

• *** High-temperature (302 °F) model of the joint is available on request.

- Higher performance joint available for hostile environments K2 Model.
- Other sizes of the tool are available on request.



MULTITECH FBK drill pipe screen

Designed to remove debris from the mud and protect the drilling string as well as to prevent any foreign material from entering the drilling string during replacement of drill pipes and tools.

Main Features and Benefits

- Perforated screens provide free mud circulation but create obstruction for cuttings;
- Set in the tool joint box;
- Direct and reverse installation in the drill pipe;
- FT-N-DS has a double separation capability;
- FBK-N-K has a protective sleeve to reduce drill pipe washout and extend their service life;
- FS screen designed to protect MWD tools from solid particles.



Application

Drilling and well construction.

Specifications

Туре	Kelly Joint ID, mm	Tool Joint ID, mm	it ID, ID, no less than	n Tool Joint less than	OD		Largest ID of the Tapered Part		Protective Sleeve ID		Length, in, no	Weight, lbs, no	Total Flow Area of Ports, in ²
			in	mm	in	mm	in	mm	in	mm	more than	more than	
FBK-N/V-73-86 K2	VBT-73K	Z-86	2	50.8	2.32	59	1.575	40			27.7	5.3	27.9
FBK-N/V-89-102 K2	VBT-89K	Z-102	2.244	57	2.953	75	1.969	50			38.9	9.5	50.55
FBK-N/V-108-122 K2	VBT-108K	Z-122	2.811	71.4	3.996	101.5	2.677	68			38.9	13.23	62.4
FBK-N/V-108/112-133 K2	VBT-108K; VBT-112K	Z-133	2.811	71.4	3.996	101.5	2.677	68			38.9	13.23	62.4
FBK-N/V-140-147 K2	VBT-140K	Z-147	3.976	101	4.53	115	2.992	76			38.9	15.43	72.56
FT-N-DS-89-102 K2	89	Z-102	2.244	57	2.953	75	1.969	50			38.9	9.5	39.84
FBK-N-K-108/112-133 K2	VBT-108K; VBT-112K	Z-133	2.811	71.4	3.996	101.5	2.52	64	2.68	68	19.8	11.68	27.3
FBK-N-K-140-147 K2	VBT-140K	Z-147	3.976	101	4.53	115	2.835	71	2.95	75	19.8	13.9	30.78
FS 127-NC50 K2	127	NC 50	2.88	73.15	4.6	116.8	3.504	89	-	-	43.8	24.91	1.17

■ Higher performance screens available for hostile environments – K2 Model.

• Other sizes of the screens are available on request.



MULTITECH FZT downhole filter sub

Designed to protect critical downhole equipment from debris (sand, scale, solid particles) and to catch foreign materials (lost cable bands, etc.) during subsurface pump replacement.

Application

• Downhole production assemblies incorporating releasable tools which can be left in the well.

Main Features and Benefits

- Run in the well on tubing, coiled tubing or wireline;
- Retrieved with standard fishing tools;
- Expandable debris catcher;
- Single trip operation.

Specifications

	Casing Size		Sub OD		Debris C	ather Size*	Fishing	g Neck ID	Connection	
Туре	in	mm	in	mm	in	mm	in	mm	in	mm
FZT-122	5 ¾	146.1	4.96	126	118.11	3000	3.35	85	2.875 NU	73.03
FZT-142	6 ⁵⁄≋	168.3	5.75	146	118.11	3000	3.35	85	2.875 NU	73.03
FZT-152	7	177.8	5.98	152	118.11	3000	3.35	85	2.875 NU	73.03

• * Other sizes of the catcher are available on request.

• Custom-made filter subs are available for other types of production casing.

■ Higher performance subs available for hostile environments — K2 Model.



MULTITECH VN guide funnel

Designed to guide the casing string during RIH and ensure unhindered entry of tools or geophysical instruments into the tubing string.

Application

Logging.

• As part of the downhole equipment composition

- Simple design;
- Tool's components are plated or coated with phosphate.

Main Features and Benefits

• The inlet has guide bevelled corners for easy entry of tools and instruments.

Specifications

	Re-entry guide size											
Туре	C	D	ID		Conn	ection*						
	in	mm	in	mm	in	mm	Length, In, no more than	weight, ibs, no more than				
V NKT 73-90	3.54	90	2.44	62	2.875	73.03	5.51	6.6				
VN TMK UP FMT 3,5"-108 K1 KhL	4.25	108	2.99	76	3.50	89	8.66	12.13				
VN TMK UP FMT 4,5"-130 K1 KhL	5.12	130	3.94	100	4.49	114	9.84	13.23				

• * Optional box (top) thread connections are available.

■ Higher performance guides available for hostile environments – K2 Model.

• Other sizes of the re-entry guide are available on request.




Multiple Packer Assemblies for Oil Wells





MULTITECH KOUS-DPK (A)

designed for dual completion applications with isolation of perforated or disturbed casing section above the assembly

Benefits

- Ensures permanent (tubing-released) isolation of zones within the casing;
- Protects production casing from dynamic impact of the environment during various well interventions.

Components

- On-off connector RK-S;
- Compression mechanical packer PU-M;
- Release joint P-B;
- Axial mechanical set packer PM-R (PVM-O).

Specifications Equipment size Casing size Working Pressure, OD ID Type psi in in in mm mm mm KOUS-DPK (A) 114-52-35 5 1/2 2.047 5076** 139.7 4.49 114 52 KOUS-DPK (A) 118-52-35 4.646 118 2.047 5076** 5 ½; 5 ¾ 139.7; 146.1 52 5 3⁄4 146.1 122 2.047 52* 5076** KOUS-DPK (A) 122-52-35 4.803 KOUS-DPK (A) 140-60-35 6 % 168.3 5.512 140 2.362 60* 5076** KOUS-DPK (A) 150-60-35 6 %; 7 168.3; 177.8 5.906 150 2.362 60* 5076**

- * Other Tool ID is available on request.
- ** Differential pressure ratings 7252 psi; 10150 psi.
- Working temperature ratings 266 °F; 302 °F.
- Customer-selected setdown weight.
- Higher performance assembly available for hostile environments K2 Model.
- Other sizes of the assembly are available on request.

Hydraulic anchor YaG2 Hydraulic booster valve K-UG Bladed sub P-C On-off sealing connector RK-S (U) Bladed sub P-C Axial mechanical set packer PM-A1 (F) Tubing 73 Production casing

MULTITECH KOUS-PK (A) K-UG

designed to be used in horizontal wells and to set packer assembly in shallow wells

Benefits

- Enables packer setting with insufficient tubing weight;
- Ensures packer setting and tubing release in horizontal wells;
- Allows setting of a packer at shallow depths 4724 in.

Components

- Hydraulic anchor YaG1;
- Bladed sub P-C;
- On-off sealing connector RK-S (U);
- Axial mechanical set packer PM-A1 (F);
- Hydraulic booster valve K-UG.

Specifications

	Casi			Equipm			
Туре	Casing size		OD ID)	Working Pressure,
	in	mm	in	mm	in	mm	psi
(OUS-PK (A) K-UG 114-52-35	5 ½	139.7	4.49	114	2.047	52	5076**
(OUS-PK (A) K-UG 118-52-35	5 ½; 5 ¾	139.7; 146.1	4.646	118	2.047	52	5076**
(OUS-PK (A) K-UG 122-52-35	5 ¾	146.1	4.803	122	2.047	52*	5076**
KOUS-PK (A) K-UG 140-60-35	6 5⁄8	168.3	5.512	140	2.362	60*	5076**
(OUS-PK (A) K-UG 150-60-35	6 %; 7	168.3; 177.8	5.906	150	2.362	60*	5076**

- * Other Tool ID is available on request.
- ** Differential pressure ratings 7252 psi; 10150 psi.
- Customer-selected setdown weight.
- Higher performance assembly available for hostile environments K2 Model.
- Other sizes of the assembly are available on request







MULTITECH KOUS-DPK (A) K-UG

used to protect production casing from fluid injected with inverted ESP

Benefits

- Provides upper packer setting (followed by tubing release) with insufficient tubing weight or at shallow depths;
- Application in horizontal wells;
- Replacement of ESP without assembly retrieval.

Components

- Hydraulic anchor YaG1;
- Hydraulic booster valve K-UG;
- On-off sealing connector RK-S (U):
- Compression mechanical set packer PU-M;
- Release joint P-B:
- Axial mechanical set packer PM-R.

Specifications

	Cas	ing cizo		Equipmo		Working	
Туре	CdS	ing size	0	D	10)	Pressure,
	in	mm	in	mm	in	mm	psi
KOUS-DPK (A) K-UG 114-52-35	5 ½	139.7	4.49	114	2.047	52	5076**
KOUS-DPK (A) K-UG 118-52-35	5 ½; 5 ¾	139.7; 146.1	4.646	118	2.047	52	5076**
KOUS-DPK (A) K-UG 122-52-35	5 ¾	146.1	4.803	122	2.047	52*	5076**
KOUS-DPK (A) K-UG 140-60-35	6 5%	168.3	5.512	140	2.362	60*	5076**
KOUS-DPK (A) K-UG 150-60-35	6 %; 7	168.3; 177.8	5.906	150	2.362	60*	5076**

- * Other Tool ID is available on request.
- ** Differential pressure ratings 7252 psi; 10150 psi.
- Working temperature ratings 266 °F; 302 °F.
- Customer-selected setdown weight.
- Higher performance assembly available for hostile environments K2 Model.
- Other sizes of the assembly are available on request.



MULTITECH KOUS-PK (F)

enables intrawell injection from an upper water production zone into lower payzones with inverted ESP

Benefits

- Provides tight connection of the tubing string to ensure the fluid is injected straight in the formation;
- Protects production casing from injected fluid;
- Replacement of ESP without packer assembly retrieval.

Components

- Hydraulic anchor YaG1;
- Bladed sub P-C;
- On-off sealing connector RK-S (U);
- Axial mechanical set packer (retainer) PM-A1 (F).

Specifications

				Equipm	ent size		
Туре	Casii	ng size	0)	10)	Working
	in	mm	in	mm	in	mm	Pressure, psi
KOUS-PK (F) 114-52-35	5 ½	139.7	4.49	114	2.047	52	5076**
KOUS-PK (F) 118-52-35	5 ½; 5 ¾	139.7; 146.1	4.646	118	2.047	52	5076**
KOUS-PK (F) 122-52-35	5 3⁄4	146.1	4.803	122	2.047	52*	5076**
KOUS-PK (F) 140-60-35	6 5⁄8	168.3	5.512	140	2.362	60*	5076**
KOUS-PK (F) 150-60-35	6 %; 7	168.3; 177.8	5.906	150	2.362	60*	5076**

- * Other Tool ID is available on request.
- ** Differential pressure ratings 7252 psi; 10150 psi.
- Working temperature ratings 266 °F; 302 °F.
- Customer-selected setdown weight.
- Higher performance assembly available for hostile environments K2 Model.
- Other sizes of the assembly are available on request.





MULTITECH KOUS-PVM-O (KV)

provides ESP completion with isolation of disturbed sections of production casing

Benefits

- Evacuates gas from under the packer through the gas vent (Fig. 1);
- Evacuates gas from under the packer through the gas vent and allows for chemical injection to wash ESP (Fig. 2);
- Evacuates gas from under the packer through the gas vent into the flowline to allow for removal of paraffin deposits (Fig. 3);
- Evacuates gas from under the packer into the tubing using gas vent valve of the KGP and KPP series (Fig. 4);
- Multiple setting/unsetting cycles within single trip, including new connections.

Specifications

Equipment size Casing size Working OD ID Type Pressure, psi in in in mm mm mm 5076** KOUS-PVM-O (KV) 122-35-35 5 3⁄4 122 1.378 35 146.1 4.803 6 % KOUS-PVM-O (KV) 140-50-35 168.3 5.512 140 1.969 50* 5076** KOUS-PVM-O (KV) 150-50-35 6 %; 7 168.3; 177.8 5.906 150 1.969 50* 5076**

Due to continuous improvement of packers, anchors and other downhole tools, applicable specifications and descriptions may not be complete.

- * Other Tool ID is available on request.
- ** Differential pressure ratings 7252 psi; 10150 psi.
- Working temperature ratings 266 °F; 302 °F.
- Customer-selected setdown weight.
- Higher performance assembly available for hostile environments K2 Model.
- Other sizes of the assembly are available on request.

Components

- PVM-O (KV) packer with a gas vent and a chemical injection port;
- Capillary tubing system.





MULTITECH KOUS-PVM-O (KV) M

provides ESP completion with isolation of disturbed sections of production casing

Benefits

- Evacuates gas from under the packer into the tubing using gas vent valve of the KGP and KPP series (Fig. 1);
- Evacuates gas from under the packer through the gas vent (Fig. 2);
- Multiple setting/unsetting cycles within single trip, including new connections;
- Quick and easy assembly without compromising power cable integrity.

Specifications

Components

- Mechanical set gas vent packer PVM-O (KV) M;
- Gas vent;
- Gas vent valve KGP (KPP).

		•					
Туре	Casii	ng size	00)	10)	Working
	in	mm	in	mm	in	mm	Pressure, psi
KOUS-PVM-O (KV) M 122-52-35	5 3⁄4	146.1	4.803	122	1.378	52*	5076**
KOUS-PVM-O (KV) M 140-60-35	6 %	168.3	5.512	140	1.969	60*	5076**
KOUS-PVM-O (KV) M 150-60-35	6 %; 7	168.3; 177.8	5.906	150	1.969	60*	5076**

- * Other Tool ID is available on request.
- ** Differential pressure ratings 7252 psi; 10150 psi.
- Working temperature ratings 266 °F; 302 °F.
- Customer-selected setdown weight.
- Higher performance assembly available for hostile environments K2 Model.
- Other sizes of the assembly are available on request.



MULTITECH KOUS-PVM-O (KV) ORD

used for single tubing dual completion

Benefits

 Enables ESP-production in the lower payzone and SRP-production in the upper reservoir.

Components

Feed-through axial mechanical set packer PVM-O (KV) M;
Gas vent valve KGP.

Specifications

	6			Equip	ment size		
Туре	Cas	ing size	0	D	I	D	Working Brossuro psi
	in	mm	in	mm	in	mm	Pressure, psi
KOUS-PVM-O (KV) ORD 122-35-35	5 ¾	146.1	4.803	122	1.378	35	5076**
KOUS-PVM-O (KV) ORD 140-50-35	6 5%	168.3	5.512	140	1.969	50*	5076**
KOUS-PVM-O (KV) ORD 150-50-35	6 %; 7	168.3; 177.8	5.906	150	1.969	50*	5076**

- * Other Tool ID is available on request.
- ** Differential pressure ratings 7252 psi; 10150 psi.
- Working temperature ratings 266 °F; 302 °F.
- Customer-selected setdown weight.
- Higher performance assembly available for hostile environments K2 Model.
- Other sizes of the assembly are available on request.





MULTITECH KOUS-PVM-O (KV) ORD-DS

allows single tubing dual completion in the formations with significantly different reservoir properties

Benefits

Provides dual and multiple zone completion;

Enables dual metering of produced fluid.

Components

- On-off connector RK-S;
- Feed-through hydraulic anchor YaG1 (KV);
- Feed-through axial mechanical set packer PVM-O (KV).

Specifications

	Casi	ng eine		Equipmen	t size			
Туре	Casi	ng size	O)	I	D	Working Prossure psi	
	in	mm	in	mm	in	mm	Flessule, psi	
KOUS-PVM-O (KV) ORD-DS 122-35-35	5 ¾	146.1	4.803	122	1.378	35	5076**	
KOUS-PVM-O (KV) ORD-DS 140-50-35	6 5%	168.3	5.512	140	1.969	50*	5076**	
KOUS-PVM-O (KV) ORD-DS 150-50-35	6 %; 7	168.3; 177.8	5.906	150	1.969	50*	5076**	

- * Other Tool ID is available on request.
- ** Differential pressure ratings 7252 psi; 10150 psi.
- Working temperature ratings 266 °F; 302 °F.
- Customer-selected setdown weight.
- Higher performance assembly available for hostile environments K2 Model.
- Other sizes of the assembly are available on request.



MULTITECH KOUS-PM-A1 (F) ORD

allows single tubing dual completion in the formations with significantly different reservoir properties

Benefits

- Provides dual and multiple zone completion;
- Enables dual metering of produced fluid;
- Allows ESP changeover without packer assembly retrieval.

Components

- Feed-through hydraulic anchor YaG1 (KV);
- On-off sealing connector RK-S (U);
- Axial mechanical set packer (retainer) PM-A1 (F).

Specifications

	Coo	ing sins		Equipme			
Туре	Cas	ing size	OD)	IC)	Working Pressure psi
	in	mm	in	mm	in	mm	Flessule, psi
KOUS-PM-A1 (F) ORD 122-52-35	5 ¾	146.1	4.803	122	1.378	52*	5076**
KOUS-PM-A1 (F) ORD 140-60-35	6 5%	168.3	5.512	140	1.969	60*	5076**
KOUS-PM-A1 (F) ORD 150-60-35	6 %; 7	168.3; 177.8	5.906	150	1.969	60*	5076**

- * Other Tool ID is available on request.
- ** Differential pressure ratings 7252 psi; 10150 psi.
- Customer-selected setdown weight.
- Higher performance assembly available for hostile environments K2 Model.
- Other sizes of the assembly are available on request.





MULTITECH KOUS-PK-ORD (KP) M

used for single tubing dual completion with single ESP

Benefits

- Enables dual completion with single ESP;
- Switching valve (KP) allows temporary isolation of one of the zones;
- Provides selective metering capabilities for produced fluid;
- Enables real-time pressure and temperature measurements.
 Data are transmitted through the logging cable to the wellhead interface unit;
- ESP and switching valve can be retrieved without unsetting the packer.

Components

- Switching valve KP;
- On-off sealing connector RK-S (U);
- Axial mechanical set packer (retainer) PM-A1 (F).

Specifications

	Cost	ing size			Working		
Туре	Cas	ing size	O)	ID	Pressure,	
	in	mm	in	mm	in	mm	psi
KOUS-PK-ORD (KP) M 122-52-35	5 ¾	146.1	4.803	122	1.378	52*	5076**
KOUS-PK-ORD (KP) M 140-60-35	6 %	168.3	5.512	140	1.969	60*	5076**
KOUS-PK-ORD (KP) M 150-60-35	6 ⅛; 7	168.3; 177.8	5.906	150	1.969	60*	5076**

- * Other Tool ID is available on request.
- ** Differential pressure ratings 7252 psi; 10150 psi.
- Customer-selected setdown weight.
- Higher performance assembly available for hostile environments K2 Model.
- Other sizes of the assembly are available on request.



MULTITECH KOUS-DL-ORZ

used for dual injection through concentric tubing strings

Benefits

- Protects the production casing from HPHT environment of the injected fluid;
- Provides regulation of injected volume;
- Provides selective logging capabilities.

Components

- Compression packer with hydraulic anchor PU-YaG1;
- Circulating (sealing) valve KCP (U);
- Release joint P-B;
- Axial mechanical set packer PM-R (PVM-O).

Specifications

	6-								
Туре	Casing size		OD ID				ID of the	valve	Working Prossure psi
	in	mm	in	mm	in	mm	in	mm	Plessule, psi
KOUS-DL-ORZ 122-52-35	5 ¾	146.1	4.803	122	1.378	52*	5076**	35/40	7252*
KOUS-DL-ORZ 140-60-35	6 %	168.3	5.512	140	1.969	60*	5076**	35/40	7252*
KOUS-DL-ORZ 150-60-35	6 %; 7	168.3; 177.8	5.906	150	1.969	60*	5076**	35/40	7252*

- * Other Tool ID is available on request.
- ** Differential pressure ratings 7252 psi; 10150 psi.
- Working temperature ratings 266 °F; 302 °F.
- Customer-selected setdown weight.
- Higher performance assembly available for hostile environments K2 Model.
- Other sizes of the assembly are available on request.







MULTITECH KOUS-DPK-ORZ/D

used for dual-zone selective completion through concentric tubing strings with injection in the upper zone and production in the lower zone

Benefits

- Protects the production casing from HPHT environment of the injected fluid;
- Enables SRP-production.

Components

- Compression packer with hydraulic anchor PU-YaG1;
- Circulating (sealing) valve KCP (U);
- Release joint P-B;
- Axial mechanical set packer PM-R (PVM-O).

Specifications

	Casing size				Equip	ment siz	e		
Туре	Casing size		OD		ID		ID of the valve		Working Prossure psi
	in	mm	in	mm	in	mm	in	mm	Plessule, psi
KOUS-DPK-ORZ/D 122-52-35	5 3⁄4	146.1	4.803	122	1.378	52*	5076**	35/40	7252*
KOUS-DPK-ORZ/D 140-60-35	6 3%	168.3	5.512	140	1.969	60*	5076**	35/40	7252*
KOUS-DPK-ORZ/D 150-60-35	6 %; 7	168.3; 177.8	5.906	150	1.969	60*	5076**	35/40	7252*

- * Other Tool ID is available on request.
- ** Differential pressure ratings 7252 psi; 10150 psi.
- Customer-selected setdown weight.
- Higher performance assembly available for hostile environments K2 Model.
- Other sizes of the assembly are available on request.



MULTITECH KOUS-DPK-DL-ORZ/D (KV)

used for dual-zone selective completion through concentric tubing strings with injection in the upper zone and production in the lower zone

Benefits

- Protects the production casing
- from HPHT environment of the injected fluid;
- Enables ESP-production;
- Helps evacuate gas from under the packer.

Specifications

Components

- Feed-through compression packer PU (KV);
- Circulating (sealing) valve KCP (U);
- Release joint P-B;
- Feed-through axial mechanical set packer PVM-O (KV) M;
- Gas vent valve KPP.

	6-								
Туре	Casing size		0	OD ID			ID of the v	alve	Working Prossure psi
	in	mm	in	mm	in	mm	in	mm	Pressure, psi
KOUS-DPK-DL-ORZ/D (KV) 122-52-35	5 ¾	146.1	4.803	122	1.378	52*	5076**	35/40	7252*
KOUS-DPK-DL-ORZ/D (KV) 140-60-35	6 5%	168.3	5.512	140	1.969	60*	5076**	35/40	7252*
KOUS-DPK-DL-ORZ/D (KV) 150-60-35	6 %; 7	168.3; 177.8	5.906	150	1.969	60*	5076**	35/40	7252*

- * Other Tool ID is available on request.
- ** Differential pressure ratings 7252 psi; 10150 psi.
- Working temperature ratings 266 °F; 302 °F.
- Customer-selected setdown weight.
- Higher performance assembly available for hostile environments K2 Model.
- Other sizes of the assembly are available on request.





MULTITECH KOUS-ORZ-DPK (KS)

used for single string dual injection

Benefits

- Protects the production casing from HPHT environment of the injected fluid;
- Allows selective regulation of injected volume of fluid;
- Provides selective logging capabilities.

Components

- On-off connector RK-S;
- Side pocket mandrel KS;
- Compression packer with hydraulic anchor PU-YaG1;
- On-off connector RK Tubing;
- Axial mechanical set packer PM-R;
- Bull plug.

Specifications

	6	aina aina		Equipment size						
Туре	Casing size		0[)	ID		Working Pressure psi			
	in	mm	in	mm	in	mm	Flessule, psi			
OUS-ORZ-DPK (KS) 122-52-35	5 ¾	146.1	4.803	122	1.378	52*	5076**			
OUS-ORZ-DPK (KS) 140-60-35	6 %	168.3	5.512	140	1.969	60*	5076**			
OUS-ORZ-DPK (KS) 150-60-35	6 %; 7	168.3; 177.8	5.906	150	1.969	60*	5076**			

- * Other Tool ID is available on request.
- ** Differential pressure ratings 7252 psi; 10150 psi.
- Working temperature ratings 266 °F; 302 °F.
- Customer-selected setdown weight.
- Higher performance assembly available for hostile environments K2 Model.
- Other sizes of the assembly are available on request.



MULTITECH KOUS-DPK (KV) VSP

designed for single string intrawell injection with water produced from the lower aquifer and injected in the upper reservoir

Components

set packer PU-M (KV);

Downhole flow control valve K7

Feed-through hydraulic anchor YaG2 (KV);

■ Feed-through axial mechanical set packer PVM-O (KV);

Feed-through compression mechanical

Benefits

- Protects the production casing from HP environment during intrawell injection;
- Helps maintain formation pressure when water supply is not available or water injection wells can't support it due to remote location;
- Makes construction of water supply unnecessary, thereby substantially saving costs.

Specifications

Equipment size **Casing size** Working OD ID Type Pressure, psi in in mm in mm mm 5 3⁄4 KOUS-DPK (KV) VSP 122-35-35 146.1 4.803 122 1.378 35 5076** KOUS-DPK (KV) VSP 140-50-35 6 % 168.3 5.512 140 1.969 50* 5076** KOUS-DPK (KV) VSP 150-50-35 6 %; 7 168.3; 177.8 5.906 150 1.969 50* 5076**

- * Other Tool ID is available on request.
- ** Differential pressure ratings 7252 psi; 10150 psi.
- Working temperature ratings 266 °F; 302 °F.
- Customer-selected setdown weight.
- Higher performance assembly available for hostile environments K2 Model.
- Other sizes of the assembly are available on request.







MULTITECH KOUS-TPK-VSP

used for single string intrawell injection with water produced from the upper aquifer and injected in the lower reservoir

Benefits

- Protects the production casing from HP environment during intrawell injection;
- Provides tight connection of the tubing string to ensure the fluid is injected straight in the formation;
- Allows ESP changeover without dual packer assembly retrieval.

Specifications

Components

- Feed-through axial mechanical set packer PVM-O (KV);
- On-off sealing connector RK-S (U);
- Compression mechanical set packer PU-M;
- Axial mechanical set Packer PM-R (PVM-O);
- Downhole flow control valve KZ.

	Casi			Equipm	nent size				
Туре	Casi	ng size	0	D	IC)	Working Pressure,		
	in	mm	in	mm	in	mm	psi		
KOUS-TPK-VSP 122-35-35	5 ¾	146.1	4.803	122	1.378	35	5076**		
KOUS-TPK-VSP 140-50-35	6 5⁄8	168.3	5.512	140	1.969	50*	5076**		
KOUS-TPK-VSP 150-50-35	6 %; 7	168.3; 177.8	5.906	150	1.969	50*	5076**		

- * Other Tool ID is available on request.
- ** Differential pressure ratings 7252 psi; 10150 psi.
- Working temperature ratings 266 °F; 302 °F.
- Customer-selected setdown weight.
- Higher performance assembly available for hostile environments K2 Model.
- Other sizes of the assembly are available on request.



MULTITECH KOUS-TPK (A)

designed for long-term ESP-completion and isolation of previously perforated casing sections

Benefits

- Allows secure isolation of previously perforated casing sections;
- Allows ESP changeover without packer assembly retrieval.

Specifications

Components

- On-off connector RK-S;
- Compression mechanical set packer PU-M;
- Release joint P-B;
- Compression packer PU;
- Axial mechanical set packer PM-R (PVM-O).

		•		Equipm	ent size		Working	
Туре	Casin	ig size	0)	IC)		
	in	mm	in	mm	in	mm	Pressure, psi	
KOUS-TPK (A) 114-52-35	5 ½	139.7	4.49	114	2.047	52	5076**	
KOUS-TPK (A) 118-52-35	5 1/2; 5 3/4	139.7; 146.1	4.646	118	2.047	52	5076**	
KOUS-TPK (A) 122-52-35	5 ¾	146.1	4.803	122	2.047	52*	5076**	
KOUS-TPK (A) 140-60-35	6 5%	168.3	5.512	140	2.362	60*	5076**	
KOUS-TPK (A) 150-60-35	6 ⁵⁄s; 7	168.3; 177.8	5.906	150	2.362	60*	5076**	

- * Other Tool ID is available on request.
- ** Differential pressure ratings 7252 psi; 10150 psi.
- Working temperature ratings 266 °F; 302 °F.
- Customer-selected setdown weight.
- Higher performance assembly available for hostile environments K2 Model.
- Other sizes of the assembly are available on request.





MULTITECH KOUS-TPK-SO

used for selective stimulation or dual well testing with different fluid

Benefits

- Allows secure isolation of previously perforated zones;
- Provides single trip fluid injection.

Components

- Circulating sub KP;
- Compression packers PU;
- Top circulating sub KCP-V;
- Bottom circulating sub KCP-N;
- Axial mechanical set packer PM-R (PVM-O).

Specifications

	Cas	ing sine		Equipm					
Туре	Cas	ing size	0)	IC)	Working Broccure pei		
	in	mm	in	mm	in	in mm Press			
KOUS-TPK-SO 114-52-35	5 ½	139.7	4.49	114	2.047	52	5076**		
KOUS-TPK-SO 118-52-35	5 ½; 5 ¾	139.7; 146.1	4.646	118	2.047	52	5076**		
KOUS-TPK-SO 122-52-35	5 ¾	146.1	4.803	122	2.047	52*	5076**		
KOUS-TPK-SO 140-60-35	6 5%	168.3	5.512	140	2.362	60*	5076**		
KOUS-TPK-SO 150-60-35	6 %; 7	168.3; 177.8	5.906	150	2.362	60*	5076**		

- * Other Tool ID is available on request.
- ** Differential pressure ratings 7252 psi; 10150 psi.
- Working temperature ratings 266 °F; 302 °F.
- Customer-selected setdown weight.
- Higher performance assembly available for hostile environments K2 Model.
- Other sizes of the assembly are available on request.



MULTITECH KOUS-DPK-ORZ (KZ)

used for single string dual injection

Benefits

 Allows distribution of injected volume between upper and lower intervals;

 Helps regulate the volume injected in each zone by changing choke size on the surface; Valve retrieval is accomplished using a standard wireline unit without unsetting the packer.

Specifications

Equipment size Casing size Working Pressure, OD ID Type psi in in in mm mm mm 5 3⁄4 52* 5076** KOUS-DPK-ORZ (KZ) 122-52-35 146.1 4.803 122 1.378 KOUS-DPK-ORZ (KZ) 140-60-35 6 % 168.3 5.512 140 1.969 60* 5076** KOUS-DPK-ORZ (KZ) 150-60-35 6 %; 7 168.3; 177.8 5.906 150 1.969 60* 5076**

Components

■ Release ioint P-B.

Downhole flow control valve KZ:

Axial mechanical set packer PM-R;

Compression mechanical set packer PU-M;

Due to continuous improvement of packers, anchors and other downhole tools, applicable specifications and descriptions may not be complete.

* Other Tool ID is available on request.

- ** Differential pressure ratings 7252 psi; 10150 psi.
- Working temperature ratings 266 °F; 302 °F.
- Customer-selected setdown weight.
- Higher performance assembly available for hostile environments K2 Model.
- Other sizes of the assembly are available on request.

MULTITECH Multiple Packer Assemblies for Oil Wells





MULTITECH KOUS-DPK-ORZ (KZ) M

used for single string dual injection

Benefits

- Allows distribution of injected volume between upper and lower intervals;
- Helps regulate the volume injected in each zone by changing choke size on the surface. Valve retrieval is accomplished using a standard wireline unit without unsetting the packer;
- Enables real-time flowrate, pressure and temperature measurements. Data are transmitted through the logging cable to the interface unit on the surface.

Specifications

Components

- Feed-through compression packer PU (KV);
- Downhole flow control valve KZ;
- Axial mechanical set packer PM-R;
- Gauge mandrel;
- Re-entry guide V;
- Interface unit.

	Casi			Equipmo	ent size		
Туре	Casi	ng size	OD)	l	D	Working Prossure psi
	in	mm	in	mm	in	mm	Pressure, psi
OUS-DPK-ORZ (KZ) M 122-52-35	5 ¾	146.1	4.803	122	1.378	52*	5076**
OUS-DPK-ORZ (KZ) M 140-60-35	6 5⁄8	168.3	5.512	140	1.969	60*	5076**
OUS-DPK-ORZ (KZ) M 150-60-35	6 %; 7	168.3; 177.8	5.906	150	1.969	60*	5076**

- * Other Tool ID is available on request.
- ** Differential pressure ratings 7252 psi; 10150 psi.
- Working temperature ratings 266 °F; 302 °F.
- Customer-selected setdown weight.
- Higher performance assembly available for hostile environments K2 Model.
- Other sizes of the assembly are available on request.



MULTITECH KOUS-DPK-ORZ (KP) M

used for single string dual injection

Benefits

- Allows distribution of injected fluid between zones;
- Enables flow control of injected fluid using surface-controlled switching valve;
- Contains gauge mandrel to allow real-time measurements of the following parameters:
- Volume of injected fluid;
- Tubing and annulus pressure;
- Temperature;
- Allows retrieval of the switching valve without packer assembly retrieval.

Specifications

Equipment size **Casing size** Working OD ID Type Pressure, psi in in in mm mm mm 5 3⁄4 KOUS-DPK-ORZ (KP) M 122-52-35 146.1 4.803 122 1.378 52* 5076** KOUS-DPK-ORZ (KP) M 140-60-35 6 % 168.3 5.512 140 1.969 60* 5076** KOUS-DPK-ORZ (KP) M 150-60-35 6 %: 7 168.3; 177.8 5.906 150 1.969 60* 5076**

Due to continuous improvement of packers, anchors and other downhole tools, applicable specifications and descriptions may not be complete.

- * Other Tool ID is available on request.
- ** Differential pressure ratings 7252 psi; 10150 psi.
- Working temperature ratings 266 °F; 302 °F.
- Customer-selected setdown weight.
- Higher performance assembly available for hostile environments K2 Model.
- Other sizes of the assembly are available on request.

Components

- Switching valve KPP;
- On-off connector RK-S;
- Compression mechanical set packer PU-M;
- Circulating (sealing) sub KCP (U);
- Axial mechanical set packer PM-R.



Production casing ESP Downhole filter sub FZT Formation isolation valve KO-ZP Axial mechanical set packer PM-A1 (F) Payzone

MULTITECH KOUS-PM-A1 (F) KO

isolates the formation from brine or other kill weight fluids during ESP changeover

Benefits

| | |

- Prevents the formation from being exposed to kill fluid during ESP replacement or other remedial interventions;
- Helps to significantly reduce damage to the formation;
- Reduces nonproductive time;
- Eliminates possible reduction of production rate at the start of production.

Specifications

Components

- Downhole filter sub FZT;
- On-off connector RK-S (Z);
- Formation isolation valve KO-ZP;
- Axial mechanical set packer (retainer) PM-A1 (F).

	Casi			Equipme	ent size		Working	
Туре	Casi	ng size	0	D	II	D		
	in mm		in	mm	in	mm	Pressure, psi	
OUS-PM-A1 (F) KO 114-52-35	5 ½	139.7	4.49	114	2.047	52	5076**	
OUS-PM-A1 (F) KO 118-52-35	5 ½; 5 ¾	139.7; 146.1	4.646	118	2.047	52	5076**	
OUS-PM-A1 (F) KO 122-52-35	5 ¾	146.1	4.803	122	2.047	52*	5076**	
OUS-PM-A1 (F) KO 140-60-35	6 %	168.3	5.512	140	2.362	60*	5076**	
OUS-PM-A1 (F) KO 150-60-35	6 %; 7	168.3; 177.8	5.906	150	2.362	60*	5076**	

- * Other Tool ID is available on request.
- ** Differential pressure ratings 7252 psi; 10150 psi.
- Working temperature ratings 266 °F; 302 °F.
- Customer-selected setdown weight.
- Higher performance assembly available for hostile environments K2 Model.
- Other sizes of the assembly are available on request.





MULTITECH Fracturing Equipment and Assemblies

MULTITECH KP-D

diverter sub

Designed to direct the injected proppant-gel mixture in the fracturing interval

Application

Selective fracturing assemblies.

Main Features and Benefits

- Proppant-tolerant components;
- Minimized casing washout risk if fracturing fluid pumped through the sub;
- Grooves on the housing of the sub to allow communication with the annulus;
- Internally nitrided components are case-hardened, durable and corrosion-tolerant to resist fracturing fluid;
- Tool's components are plated or coated with phosphate.

Specifications

Туре	Casin	ng size		OD	Conne	ection*	Lough in an anna than	Weight the new more then	Total Flow Area of Side Ports, in ²	
	in	mm	in	mm	in	mm	Length, in, no more than	weight, ibs, no more than		
KP-D 120	5.0	127	4.72	120	3.5 NU	88.9	24.21	55.12	35.96	

• * Optional box (top) and pin (bottom) thread connections are available.

• Higher performance valve available for hostile environments - K2 Model.

• Other sizes of the valve are available on request.



MULTITECH KO-GRP rotary check valve

Provides isolation of the tubing string in overpressure conditions.

Application

- Selective fracturing;
- Plug operations.

Main Features and Benefits

- Opening is accomplished by a half right-hand turn at the tubing string;
- Closing is accomplished by a half left-hand turn at the tubing string;
- Proppant-tolerant components;
- Multiple use within one tripping;
- Tool's components are plated or coated with phosphate;
- Internally nitrided components are case-hardened, durable and corrosion-tolerant to resist fracturing fluid.

S	р	e	C	ifi	Ca	at	io	ns	
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Trees	Casing size		OD		ID		Conne	ction*	Length, in, no more	Weight, lbs, no more	Working	Maximum	
туре	in	mm	in	mm	in	mm	in	mm	than	than	Pressure, psi	temperature, °F	
KO-GRP 122-60-70	5.0	127	4.8	122	2.36	60	2.875 NU	73.03	37.95	125.66	10150**	266***	
KO-GRP 140-72-70	5 ¾	146.1	5.51	140	2.83	72	3.5 NU	88.9	37.95	134.48	10150**	266***	

• * Optional box (top) and pin (bottom) thread connections are available.

• ** Differential pressure ratings — 10150 psi; 14500 psi.

• *** High-temperature (302 °F, 392 °F) model of the valve is available on request.

Higher performance valve available for hostile environments – K2 Model.

• Other sizes of the valve are available on request.



MULTITECH PM-V (GRP)

rotary mechanical set packer

Allows for long-term isolation of zones in the production string and protects the production string from dynamic and hostile downhole conditions in the course of bottomhole zone treatment.

Application

- Hydraulic fracturing;
- Acid fracturing;
- Casing leak detection;
- Acidizing;
- Other well interventions requiring pressurization above or below the packer.

Main Features and Benefits

- Set in the well by a quarter right-hand turn of the tubing string and lowering it
- To release the packer apply tension to the tubing;
- Two-cup (protective and sealing) or three-cup (two protective and one sealing) design for worn casings;
- Simple design;
- Low maintenance cost;
- To easily release the packer in the deep wells it is recommended that the packer be set along with KU-O unloader valve (placed above the packer). The valve allows the pressure between the tubing and the annulus to equalize;
- The packer has a built-in hydraulic anchor;
- Solid and reinforced bore design;
- Multiple use within one tripping;
- High maintainability;
- Internally nitrided components are case-hardened, durable and corrosion-tolerant to resist fracturing fluid;
- Tool's components are plated or coated with phosphate.



Specifications

	6	in a sina					Packer	size			Maximum		Setdown Force, kN	
Туре	Cas	ing size	0	D	IC)	Connec	tion*	Length, in, no	Weight, lbs, no	pressure,	Maximum	Setdown Force, kN,	
	in	mm	in	mm	in	mm	in	mm	more than	more than	psi	temperature, i	no more than	
PM-V (GRP) 82-34-100 YaG1	4.0	101.6	3.23	82	1.339	34	2.375 NU	60.33	45.276	48.5	14500**	266***	5080	
PM-V (GRP) 88-38-100 YaG1	4 1⁄2	114.3	3.465	88	1.496	38	2.375 NU	60.33	45.276	55.1	14500**	266***	5080	
PM-V (GRP) 92-38-100 YaG1	4 1/2	114.3	3.622	92	1.496	38	2.375 NU	60.33	45.276	57.3	14500**	266***	5080	
PM-V (GRP) 98-42-100 YaG1	4 ½; 5.0	114.3; 127.0	3.86	98	1.654	42	2.875 NU	73.03	48.819	66.1	14500**	266***	5080	
PM-V (GRP) 101-42-100 YaG1	5.0	127.0	3.976	101	1.654	42	2.875 NU	73.03	48.819	75	14500**	266***	5080	
PM-V (GRP) 112-52-100 YaG1	5 1⁄2; 5 ¾	139.7; 146.1	4.41	112	2.047	52	2.875 NU	73.03	48.819	92.95	14500**	266***	80120	
PM-V (GRP) 114-52-100 YaG1	5 ½	139.7	4.49	114	2.047	52	2.875 NU	73.03	48.819	97	14500**	266***	80120	
PM-V (GRP) 116-52-100 YaG1	5 ½; 5 ¾	139.7; 146.1	4.567	116	2.047	52	2.875 NU	73.03	48.819	99.2	14500**	266***	80120	
PM-V (GRP) 118-52-100 YaG1	5 1/2; 5 3/4	139.7; 146.1	4.646	118	2.047	52	2.875 NU	73.03	48.819	101.4	14500**	266***	80120	
PM-V (GRP) 122-52-100 YaG1	5 ¾	146.1	4.803	122	2.047	52	2.875 NU	73.03	48.819	105.8	14500**	266***	80120	
PM-V (GRP) 136-60-100 YaG1	6 %	168.3	5.354	136	2.362	60	2.875 NU	73.03	48.819	125.7	14500**	266***	80120	
PM-V (GRP) 140-60-100 YaG1	6 %	168.3	5.512	140	2.362	60	2.875 NU	73.03	48.819	138.9	14500**	266***	80120	
PM-V (GRP) 142-60-100 YaG1	6 %	168.3	5.59	142	2.362	60	2.875 NU	73.03	48.819	145.5	14500**	266***	80120	
PM-V (GRP) 145-60-100 YaG1	6 %; 7	168.3; 177.8	5.709	145	2.362	60	2.875 NU	73.03	48.819	149.9	14500**	266***	80120	
PM-V (GRP) 150-60-100 YaG1	7.0	177.8	5.906	150	2.362	60	2.875 NU	73.03	48.819	156.5	14500**	266***	80120	
PM-V (GRP) 205-100-100 YaG1	9 %	244.5	8.07	205	3.937	100	4.5 NU	114.3	64.961	7.559	14500**	266***	120160	

• * Optional box (top) and pin (bottom) thread connections are available.

• ** Differential pressure ratings — 7252 psi; 10150 psi; 14500 psi.

- *** High-temperature (302 °F, 392 °F) model of the packer is available on request.
- Higher performance version available for hostile environments K2 Model.
- Supplied with spare parts, tools and accessories.
- If ordering a packer with a hydraulic anchor, please indicate the anchor option (YaG1, YaG2 or YaG3) following the packer's name.
- Other sizes of the PM-V (GRP) packer are available on request.

MULTITECH PM-R (GRP)

rotary mechanical set packer

Allows for long-term isolation of zones in the production string and protects the production string from dynamic and hostile downhole conditions in the course of bottomhole zone treatment.

Application

- Hydraulic fracturing;
- Acidizing;
- Isolation of the production casing from harsh downhole environment during production;
- Other well interventions that require pressurization above the packer;
- Injection and production wells.

Main Features and Benefits

- To set the packer pull the tubing string upward and then lower it (tubing rotation is not required);
- PM-R (GRP) B YaG1 packer has a bypass valve.
- When the packer is retrieved from a well by an upward pull of the tubing, the valve opens and equalizes the pressure across the packer which enables packer unsetting;
- J-slot on the sleeve ensures secure setting and prevents loosening of the body;
- Two-cup (protective and sealing) or three-cup (two protective and one sealing) design for worn casings;
- Built-in hydraulic anchor;
- Solid and reinforced bore design helps eliminate sealbore washout risk in large-volume fracturing;
- Multiple use within one tripping;
- Hydraulic anchor isolated from injected fracturing fluid;
- High maintainability;
- Internally nitrided components are case-hardened, durable and corrosion-tolerant to resist fracturing fluid;
- Tool's components are plated or coated with phosphate.



Specifications

	6	Cooling size					Packer siz	e					
Type	Cas	ing size	0	D	ID		Connec	tion*	Longth in no	Woight Ibc	Maximum	Maximum	Setdown Force,
Type	in	mm	in	mm	in	mm	in	mm	more than	no more than	pressure, psi	temperature, °F	kN, no more than
PM-R (GRP) 82-38-100 YaG2	4.0	101.6	3.23	82	1.496	38	2.375 NU	60.33	63.386	68.3	14500***	266****	5080
PM-R (GRP) 88-38-100 YaG2	4 1/2	114.3	3.465	88	1.496	38	2.375 NU	60.33	63.386	86	14500***	266****	5080
PM-R (GRP) 92-38-100 YaG2	4 1/2	114.3	3.622	92	1.496	38	2.375 NU	60.33	63.386	90.4	14500***	266****	5080
PM-R (GRP) 98-42-100 YaG2	4 ½; 5.0	114.3; 127.0	3.86	98	1.654	42	2.875 NU	73.03	64.92	92.6	14500***	266****	5080
PM-R (GRP) 101-42-100 YaG1	5.0	127.0	3.976	101	1.654	42	2.875 NU	73.03	67.32	101.4	14500***	266****	5080
PM-R (GRP) 112-52-100 YaG1	5 ½; 5 ¾	139.7; 146.1	4.41	112	2.047	52	2.875 NU	73.03	69.685	125.7	14500***	266****	80120
PM-R (GRP) 114-52-100 YaG1	5 ½	139.7	4.49	114	2.047	52	2.875 NU	73.03	69.685	132.3	14500***	266****	80120
PM-R (GRP) 116-52-100 YaG1	5 ½; 5 ¾	139.7; 146.1	4.567	116	2.047	52	2.875 NU	73.03	69.685	136.7	14500***	266****	80120
PM-R (GRP) 118-52-100 YaG1	5 ½; 5 ¾	139.7; 146.1	4.646	118	2.047	52	2.875 NU	73.03	69.685	136.7	14500***	266****	80120
PM-R (GRP) 122-52-100 YaG1	5 ¾	146.1	4.803	122	2.047	52	2.875 NU	73.03	69.685	143.3	14500***	266****	80120
PM-R (GRP) 136-60-100 YaG1	6 3%	168.3	5.354	136	2.362**	60**	2.875 NU	73.03	69.685	196.2	14500***	266****	80120
PM-R (GRP) 140-60-100 YaG1	6 3%	168.3	5.512	140	2.362**	60**	2.875 NU	73.03	69.685	202.8	14500***	266****	80120
PM-R (GRP) 142-60-100 YaG1	6 ⅔	168.3	5.59	142	2.362**	60**	2.875 NU	73.03	69.685	207.2	14500***	266****	80120
PM-R (GRP) 145-60-100 YaG1	6 %; 7	168.3; 177.8	5.709	145	2.362**	60**	2.875 NU	73.03	69.685	207.2	14500***	266****	80120
PM-R (GRP) 150-60-100 YaG1	7.0	177.8	5.906	150	2.362**	60**	2.875 NU	73.03	70.472	227.1	14500***	266****	80120
PM-R (GRP) 205-100-100 YaG1	9 5⁄8	244.5	8.07	205	3.937	100	4.5 NU	114.3	78.74	383.6	14500***	266****	120160

- * Optional box (top) and pin (bottom) thread connections are available.
- ** Other ID is available on request.
- *** Differential pressure ratings 7252 psi; 10150 psi; 14500 psi.
- **** High-temperature (302 °F, 392 °F) model of the packer is available on request.
- Higher performance version available for hostile environments K2 Model.
- Supplied with spare parts, tools and accessories.
- Other sizes of the PM-R (GRP) packer are available on request.

MULTITECH PU (GRP) YaG1

compression packer

Allows for long-term isolation of zones in the production string and protects the production string from dynamic and hostile downhole conditions in the course of bottomhole zone treatment.

Application

- Hydraulic fracturing;
- Acidizing;
- Isolation of the production casing from harsh downhole environment during production;
- Other well interventions that require pressurization above the packer.

Main Features and Benefits

- Set with a liner compressed against the bottomhole or atop the lower packer;
- Reliable setting in deviated and horizontal wells;
- Equipped with a pin to ensure a torque-through feature to allow rotation of the tubing assembly below the packer;
- Easy setting;
- Two-cup (protective and sealing) or three-cup (two protective and one sealing) design for worn casings;
- Simple design;
- Built-in hydraulic anchor;
- Solid and reinforced bore design helps eliminate sealbore washout risk in large-volume fracturing;
- Multiple use within one tripping;
- Hydraulic anchor isolated from injected fracturing fluid;
- Internally nitrided components are case-hardened, durable and corrosion-tolerant to resist fracturing fluid;
- Tool's components are plated or coated with phosphate.



Specifications

						Packer	size						
Туре	Cas	sing size	0	D	IC)	Connec	tion*	Lawath in ma	Maisht Iba	Maximum	Maximum	Setdown Force, kN,
Туре	in	mm	in	mm	in	mm	in	mm	more than	no more than	pressure, psi	temperature, °F	no more than
PU (GRP) 82-38-70 YaG2	4.0	101.6	3.23	82	1.496	38	2.375 NU	60.33	35.236	41.9	10150**	266***	5080
PU (GRP) 88-38-100 YaG2	4 1/2	114.3	3.465	88	1.496	38	2.375 NU	60.33	35.236	48.5	14500**	266***	5080
PU (GRP) 92-38-100 YaG2	4 1/2	114.3	3.622	92	1.496	38	2.375 NU	60.33	35.236	52.91	14500**	266***	5080
PU (GRP) 98-42-100 YaG2	4 ½; 5.0	114.3; 127.0	3.86	98	1.654	42	2.875 NU	73.03	35.433	55.1	14500**	266***	5080
PU (GRP) 101-42-100 YaG1	5.0	127.0	3.976	101	1.654	42	2.875 NU	73.03	35.433	57.3	14500**	266***	5080
PU (GRP) 112-52-100 YaG1	5 ½; 5 ¾	139.7; 146.1	4.41	112	2.047	52	2.875 NU	73.03	35.63	61.73	14500**	266***	80120
PU (GRP) 114-52-100 YaG1	5 ½	139.7	4.49	114	2.047	52	2.875 NU	73.03	35.63	61.73	14500**	266***	80120
PU (GRP) 116-52-100 YaG1	5 ½; 5 ¾	139.7; 146.1	4.567	116	2.047	52	2.875 NU	73.03	35.63	66.14	14500**	266***	80120
PU (GRP) 118-52-100 YaG1	5 ½; 5 ¾	139.7; 146.1	4.646	118	2.047	52	2.875 NU	73.03	35.63	68.34	14500**	266***	80120
PU (GRP) 122-52-100 YaG1	5 3⁄4	146.1	4.803	122	2.047	52	2.875 NU	73.03	35.63	70.55	14500**	266***	80120
PU (GRP) 136-60-100 YaG1	6 5⁄8	168.3	5.354	136	2.362	60	2.875 NU	73.03	35.827	90.4	14500**	266***	80120
PU (GRP) 140-60-100 YaG1	6 %	168.3	5.512	140	2.362	60	2.875 NU	73.03	35.827	97	14500**	266***	80120
PU (GRP) 142-60-100 YaG1	6 5⁄8	168.3	5.59	142	2.362	60	2.875 NU	73.03	35.827	97	14500**	266***	80120
PU (GRP) 145-60-100 YaG1	6 %; 7	168.3; 177.8	5.709	145	2.362	60	2.875 NU	73.03	35.827	97	14500**	266***	80120
PU (GRP) 150-60-100 YaG1	7.0	177.8	5.906	150	2.362	60	2.875 NU	73.03	35.827	101.4	14500**	266***	80120
PU (GRP) 182-76-100 YaG1	8 1/8	219.1	7.283	185	2.992	76	4.5 NU	114.3	40.748	126.46	14500**	266***	80120
PU (GRP) 205-100-100 YaG1	9 5/8	244.5	8.07	205	3.937	100	4.5 NU	114.3	40.748	185.39	14500**	266***	120160

- * Optional box (top) and pin (bottom) thread connections are available.
- ** Differential pressure rating 14500 psi.
- *** High-temperature (302 °F) model of the packer is available on request.
- Higher performance seals available for hostile environments K2 Model.
- Other sizes of the PU (GRP) packer are available on request.

MULTITECH PN

Designed for separation of intervals, formation and cross flows, in multistage fracturing operations and other open-hole and production-related interventions. Swelling and sealing are achieved through exposure of elastomer to wellbore fluids (oil, water or both). Can be used in open-hole and cased hole wells.

Main Features and Benefits

Ability to adapt to changing wellbore profile;

swellable packer

- Self-healing;
- Ensures long-term sealing due to delayed mechanical stiffening;
- Size and composition of swelling element are determined by downhole conditions;
- No moving parts;
- No setting tool required;
- Up to 20-day swelling delay;
- Chemical resistant;
- Cable feed-through option.

- Threads TMK UP FMT, TMK UP PF, TMK UP GF, VrTZ1, VrTZ 2, OTTG, OTTM and others;
- Casing size 3 ½, 4, 4 ½, 5 ½, 5 ¾, 6 ⅛ in;
- Maximum differential pressure 14 500 psi;
- Swelling temperature range 32-392 °F
- Service application with H₂S exposure;
- Available design:
- NNP-T oil-swellable vulcanized on the pipe
- NNP-R oil-swellable sleeve type
- VNP-T water-swellable vulcanized on the pipe
- VNP-R oil-swellable sleeve type
- GNP-T hybrid vulcanized on the pipe
- GNP-R hybrid sleeve type
- KNP-T combined water- and oil-swellable elastomer vulcanized on the pipe
- Internally nitrided components are case-hardened, durable and corrosion-tolerant to resist fracturing fluid.
- The packer base pipe size and specifications are selected in accordance with the pipe used by the Customer.



MULTITECH PIG

hydraulic packer

Provides isolation of zones, prevents cross flows and allows multistage fracturing. Packer is lowered in the well as a part of the casing string to be set in the open hole or in the cased wellbore.

Application

- High differential pressure conditions;
- Instant activation for multistage fracturing;
- Adjustable triggering pressure;
- No activation tool required.

Main Features and Benefits

- Maximum differential pressure 10150 psi;
- Allows selective activation with a tubing or CT-run tool;
- Larger through-bore;
- Internally nitrided components are case-hardened, durable and corrosion-tolerant to resist fracturing fluid.



MULTITECH PGPKh

liner hanger packer

Application

• Cementing and isolation of the top of liner in the casing.

Triggering method

• With hydraulic setting tool;

By overpressurizing the packer.

Used for cementing and sealing the liner in the casing of deviated and horizontal wells.

Main Features and Benefits

- Capable of handling bidirectional loads;
- No rotation and reciprocation required for setting;
- Locking rings and special design prevent sealing elements from extrusion;
- Larger through-bore;
- Internally nitrided components are case-hardened, durable and corrosion-tolerant to resist fracturing fluid.


MULTITECH S stinger

Designed for leak-proof connection of the tubing string in a PBR of the liner hanger packer or production packer.

Design Options

- With moving parts and retained sealing capacity;
- Non-moving design, with latch collet engagement.

Main Features and Benefits

- Capable to resist high pressure differential;
- No-rotation release;
- SZ stinger comes with a latch collet.
- Release (disconnection) is accomplished by rotation or upward pull;
- Larger through-bore;
- Set in the well by slacking off the tubing weight;
- Maximum stroke of the moving stinger with retained sealing capacity 236 in.
- Internally nitrided components are case-hardened, durable and corrosion-tolerant to resist fracturing fluid.





MULTITECH MGR

fracturing sleeves

Used for fracturing at the setting depth. Fracturing sleeve is installed in the noncemented liner assembly of deviated and horizontal wells.

Design Options

- Expendable, activated with a ball or hydraulically;
- Reclosable, activated with a ball or a tool.

Main Features and Benefits

- Allow multiple stages of fracturing;
- Selective opening of fracturing sleeves;
- Provide reservoir compartmentalization to allow flow control, repeat fracturing and reduce water-cut;
- Degradable balls and a shifting tool avoid the necessity of milling out seats and balls;
- Closing of fracturing sleeves with a shifting tool is accomplished with tubing, coiled tubing and downhole tractor;
- Internally nitrided components are case-hardened, durable and corrosion-tolerant to resist fracturing fluid.





MULTITECH KOUS-DPK GRP-SO

used for selective fracturing, cement plugging operations, acidizing, formation testing and casing leak detection

Benefits

Enables subsequent single-trip fracturing of several zones;

Allows selective and multiple reservoir stimulation;

Allows changing of tools' setting location.

Components

- Check valve KOP-GRP;
- Diverter sub KP-D;
- Compression packer with hydraulic anchor PU (GRP) YaG1;
- Axial mechanical set packer PVM-O;
- Bull plug.

Specifications

	Casia	!		Equipm	ent size				
Туре	Casing	OD		IC)	Working Pressure, psi			
	in	mm	in	mm	in	mm			
KOUS-DPK GRP-SO 122-50	5 ¾	146.1	4.803	122	2.047	52	7252**		
KOUS-DPK GRP-SO 140-50	6 %	168.3	5.512	140	2.362	60	7252**		
KOUS-DPK GRP-SO 145-50	6 %; 7	168.3; 177.8	5.709	145	2.362	60	7252**		

- * Differential pressure ratings 10150 psi; 14500 psi.
- Working temperature ratings 266 °F, 338 °F, 392 °F.
- Customer-selected setdown weight.
- Higher performance assembly available for hostile environments K2 Model.
- Other sizes of the assembly are available on request.





MULTITECH Gas and Gas Condensate Downhole Equipment



MULTITECH Gas and Gas Condensate Downhole Equipment

MULTITECH KO-U surface-controlled subsurface safety valve

Application

- Gas and gas condensate wells requiring downhole shut-in;
- Large volume fracturing.

Specifications

Provides controllable isolation of the tubing bore in case of emergency or during well interventions.

Main Features and Benefits

- Fail-safe design enables forced opening of the valve with a safety sleeve when surface control is lost;
- Complete isolation and sealing are achieved irrespectively of the reservoir pressure;
- Built-in pressure equalization system;
- With valve open, the flapper is not exposed to fluid flow;
- Valve body protects the flapper and the seat during wireline operations or coil tubing operation;
- Internally nitrided components are case-hardened, durable and corrosion-tolerant to resist fracturing fluid;
- Tool's components are plated or coated with phosphate.

	Casia	~ -!					Valve size				
Туре	Casing size		OD		ID			length in no more	Maximum	SCSSV Opening	Maximum
.,,-	In	mm	in	mm	in	mm	Connection*	than	pressure, psi	Pressure, psi	Temperature, °F
КО-U ТМК UP PF 3,5″ 114-50-70 KhL XЛ	5.5	139,7	4.49	114	1.969	50	TMK UP PF 89	54.7	10150	1450	266 **
КО-U ТМК UP FMT 3,5" 132-70-21 КhL ХЛ	6.6	168,28	5.20	132	2.756	70	TMK UP FMT 89	60.47	3046	1160	266 **
KO-U 146-72-70 K1 KhL	7	177,8	5.75	146	2.835	72	TMK UP FMT 89	59.06	10150	1740	266 **
КО-U ТМК UP PF 3,5″ 152-72-100 КhL XЛ	7	177,8	5.98	152	2.835	72	TMK UP PF 89	60.43	14504	1740	266 **
KO-U 190-98-21 K1 KhL	9.65	245	7.48	190	3.858	98	TMK UP FMT 114	61.1	3046	1740	266 **

• * Optional premium gas-proof threads are available on request.

• ** High-temperature (302 °F) model of the SCSSV is available on request.

■ The valve can be manufactured into the corrosion-resistant design — 13Cr, K2.

• Other sizes of the SCSSV are available on request.

 \blacksquare SCSSV is also manufactured at a pressure of 35 MPa; 50 MPa and 100 MPa



114

MULTITECH ST

slip joint

Designed to accommodate any changes in tubing string length caused by temperature and pressure.

Application

- Gas and gas condensate wells requiring downhole shut-in;
- Large volume fracturing.

Main Features and Benefits

- No shear screws design;
- Retention of a slip joint run-in position under compression and tension loads occurring during packer assembly lowering;
- Controllable jumping to operating position through the trigger unit;
- Capability to transmit torque to the equipment below in both run-in and operating modes;
- Optional installation of check valve or dummy valve in the upper section of the slip joint;
- Ultimate operation of slip joint;
- Trigger unit doesn't obstruct the bore;
- Designed with an on-off connector function.

Specifications

	C						Valve size				
Туре	Casin	g size	0	D) ID			Maximum pressure, psi	Weight, lbs, no more than		
.,,,,,,	In	mm	in	mm	in	mm	Connection*	Length, in, no more than	······································		
ST TMK UP FMT 4,5"-142-97-21 K1 KhL	6.63	168,3	5.59	142	3.82	97	TMK UP PF 89	142	3046	428.8	





Landing nipple		
SCSSV KO-A		
Crossover		
		/
Sida packat mandral	VC	
	CJ	
Circulating sub KCP		
		II
On-off connector RK-	-S	📗
		60
Hydraulic-set packer	PM-D-YaG	
		H
Circulating valve KCP		
		📗
Re-entry guide		

MULTITECH KOUS-PK-GL

used in gas, gas condensate and oil producing wells

Benefits

- Provides production control for intermittent gas-lift method of production;
- Allows temporary and permanent communication between the tubing and the annulus;
- Enables chemical treatment through the annulus into the tubing.

Components

- Landing nipple;
- SCSSV KO-A;
- Side pocket mandrel KS;
- Circulating sub KCP;
- On-off connector RK-S;
- Hydraulic-set packer PM-D-YaG;
- Re-entry guide.

Specifications

		•		Equipme			
Туре	Casi	ng size	0	D	I	D	Working Pressure,
	in	mm	in	mm	in	mm	μsi
KOUS-PK-GL 118-52-35	5 ½; 5 ¾	139.7; 146.1	4.646	118	2.047	52	5076**
KOUS-PK-GL 122-52-35	5 ¾	146.1	4.803	122	2.047	52*	5076**
KOUS-PK-GL 140-60-35	6 ⁵⁄s	168.3	5.512	140	2.362	60*	5076**
KOUS-PK-GL 150-60-35	6 ⅔; 7	168.3; 177.8	5.906	150	2.362	60*	5076**

- * Other Tool ID is available on request.
- ** Differential pressure ratings 3046 psi; 7252 psi; 10150 psi.
- Working temperature ratings 266 °F, 302 °F, 338 °F.
- Higher performance assembly available into the corrosion-resistant design 13Cr, K2.
- Optional premium gas-proof threads are available on request.
- Other sizes of the assembly are available on request.



MULTITECH KPO 114-168/142-21 K1 KhL

used in flowing oil, gas and gas condensate wells

Benefits

- Enables sealing of the tubing string in case of emergency, when reservoir shut-in is required.
- Compensate for temperature-and-pressure changes in the length of the tubing string during operation
- Ensuring connection of the tubing area with the annulus for flushing out and replacement of annular fluid
- Conduct interval hydraulic pressure testing of the tubing string and equipment

Components

- Protector P;
- SCSSV KO-U;
- Pup joint P;
- Slip joint ST;
- Circulating sub KCP;
- On-off connector RK-S;
- Hydraulic-set packer PM-D-YaG;
- Landing nipple NP;
- Re-entry guide.

Specifications

	6.			Working				
Туре	Ca	sing size	OI	0	ID		Pressure,	
	in	mm	in	mm	in	mm	psi	
KPO 114-168/142-21 K1 KhL	9 5%; 6 5%	244.5;168.3	7.48/5.59	190/142	2.992	76	7252*	

The KPO assembly has been successfully operating in the wells of GAZPROM Dobycha Nadym LLC.

- * Differential pressure ratings 5076 psi; 7252 psi; 10150 psi.
- Working temperature ratings 266 °F, 302 °F, 338 °F.
- Higher performance assembly available into the corrosion-resistant design 13Cr, K2.
- Optional premium gas-proof threads are available on request.
- Other sizes of the assembly are available on request.





MULTITECH KOUS-DPK-DLK-ORE

used for dual completion in gas and gas condensate wells

Benefits

- Allows independent metering of produced gas;
- Enables dual injection of corrosion or hydrate inhibitors through chemical injection valves;
- Provides temporary communication between the annulus and each of the tubing strings;

Components

- Chemical injection mandrels KI;
- Circulating subs KCP;
- Axial mechanical set packer PM-R;
- Axial mechanical set packer PVM-O (F);
- On-off sealing connector RK-S (U);
- Release joint P-B;
- Re-entry guide V;
- Re-entry guide with a pumpout plug.

Specifications

	Cooli			Equip			
Туре	Casil	OD		ID		Working Brossuro psi	
	in	mm	in	mm	in	mm	Pressure, psi
KOUS-DPK-DLK-ORE 152-35	7	177.8	5.984	152	3.9/2.4	100/62	5076*

- * Differential pressure ratings 3046 psi; 7252 psi; 10150 psi.
- Working temperature ratings 266 °F, 302 °F, 338 °F.
- Higher performance assembly available into the corrosion-resistant design 13Cr, K2.
- Optional premium gas-proof threads are available on request.
- Other sizes of the assembly are available on request.



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You are kindly invited to visit our production facilities where you can get an insight about our cutting-edge manufacturing process as well as become familiar with our recent developments of downhole tools and packer equipment. Please contact our representatives for further details.

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MULTITECH Gas and Gas Condensate Downhole Equipment





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