



# CONCERN SOUZENERGO

## OIL AND GAS EQUIPMENT





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## Wellhead equipment:

### Sucker-rod wellhead assembly and injection wellhead assembly

Sucker-rod wellhead assembly (ASH) and injection (ANK) tree are designed for wellhead sealing, sealing of borehole pipelines suspension and operating medium flow control.

Bypass shall be provided to avoid hook-up piping of backside with blowing line in case head.

Moreover:

- Sucker-rod wellhead assembly may be equipped with casing-head stuffing box enabling to compensate displacement of oil-well pump rods occurring while in operation;
- injection tree may be equipped with:
- ball valve or isolation valves with replaceable chokes;
- phase separators for installation and protection of manometers against unfreezing.



## Technical characteristics

Symbol	Code of sealing disc used in Christmas tree	DN		PN		H	L
		mm	inch	MPa	psi		
Sucker-rod wellhead assembly							
АШ-65x21ХЛ-Ф	CVCF-73-32ХЛ	65	29/16	21	3000	950	1530
АШ-65x21ХЛ-Ф-M1	CVCF-73-32ХЛ-M1	65	29/16	21	3000	970	1530
АШ-65x21ХЛ-Ф-M2	CVCF-73-32ХЛ-M2	65	29/16	21	3000	970	1530
Injection tree							
АН-50x21ХЛ		50	21/16	21	3000	910	1374
АН-50x21ХЛ-M		50	21/16	21	3000	910	1550
АН-50x21ХЛ-M1		50	21/16	21	3000	910	1437
АН-50x21ХЛ-Ф-B		50	21/16	21	3000	960	1420

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## Casing connections

Casing connections (OKK1, OKK2, OKK3) are designed for connections of protective and casing strings, capsulation and pressure control in space between them.

Protective string is supported with slip-type tubing catchers. Connections is equipped with wall packers that enables pressurizing flange coupling of body frames of casing head and casing connections.



### Technical characteristics

typical layout	OKK1	OKK2	OKK3
Operating pressure, MPa (psi)	14 (2000) 21 (3000) 35 (5000)	21 (3000) 35 (5000)	70 (10000)
Nominal diameter of casing, mm	140, 146, 168, 219, 245	140, 146, 168, 219, 245, 299, 324	140, 146, 168, 219, 245, 299, 324, 426
Weight, kg	350 500 550	1050 1500	

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## Direct-flow parallel-faced gate valves

Applied as closure device for pipelines for transportation of oil, gas, non-aligned as against material of product major components.

PN 210, 350



Main dimensions, mm

Type designation (table of patterns)	DN	PN	L	H	Type of tying	Material of major components	Temperature of operating medium	Weight, kg
3M-65X21	65	21	422	610	65X21-П27 GOST 28919-91	Steel 20CrГ1	≤121°S	90
3M-100X21	100		511	824	100X21-П37 GOST 28919-91			300
3M-50X35	50	35	350	565	50X35-П24 GOST 28919-91			81
3M-65X35	65		422	610	65X21-П27 GOST 28919-91			90
3M-80X35	80		473	785	80X35-П35 GOST 28919-91			195
3M-100X35	100		549	824	100X35-П39 GOST 28919-91			320
Shutoff class					A (according to GOST 9544-2005)			
Gate valves operation					manual (handwheel)			
Installation position					any, except for "handwheel downward"			
Climatic version					UHL according to GOST 15150-69			



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## Adjustable chokes DR and DRP

Adjustable chokes (DR and DRP) are designed for handling a well or pipeline.

Components of choke DR required for regulation of oil well products consumption (rod header and liner - jet) are made of wear proof and corrosion – resistance materials.

Choke DRP as against choke DR regulates a flow of operating Medium by shut-down of holes equally spaced along the line and diameter in holed cylinder (cage) with cylinder piston. DRP shall be recommended in case of supernormal consumption and pressure difference of Medium. DRP choke structure enables plugging Medium flow through double (rigid and elastomer-ic) seal and smoothly regulates Medium consumption within the range of nominal inside diameter with control on-scale.



### Technical characteristics

Symbol	DN		PN		Diameter of adjustable undersize	H	H <sub>1</sub>	L	D	Connection size
	mm	inch	MPa	psi						
ДР-50x70ХЛ	50	21/16	70	10000	n.e. 25	805	298	225	200	GOST 28919
ДР-65x14ХЛ-Ф	65	29/16	14	2000	n.e. 25	597	187	167	195	RD 26-16-40
ДР-65x21ХЛ	65	29/16	21	3000	n.e. 25	620	210	190	245	GOST 28919
ДР-65x21ХЛ-Ф	65	29/16	21	3000	n.e. 25	610	200	180	195	RD 26-16-40
ДР-65x35ХЛ	65	29/16	35	5000	n.e. 25	610	200	180	245	GOST 28919
ДР-65x70ХЛ	65	29/16	70	10000	n.e. 25	790	298	225	230	GOST 28919
ДРП-65x21ХЛ-Ф	65	29/16	21	3000	n.e. 25	656	200	180	195	RD 26-16-40
ДР-80x21ХЛ	80	31/8	21	3000	n.e. 50	790	298	225	242	GOST 28919
ДР-80x35ХЛ	80	31/8	35	5000	n.e. 50	790	298	225	265	GOST 28919
ДРП-100x1,6ХЛ	100	41/16	1,6	232	n.e. 60	664	180	160	215	GOST 28919
ДР-100x21ХЛ	100	41/16	21	3000	n.e. 75	885	296	264	292	GOST 28919
ДР-100x35ХЛ	100	41/16	35	5000	n.e. 75	1008	320	260	310	GOST 28919

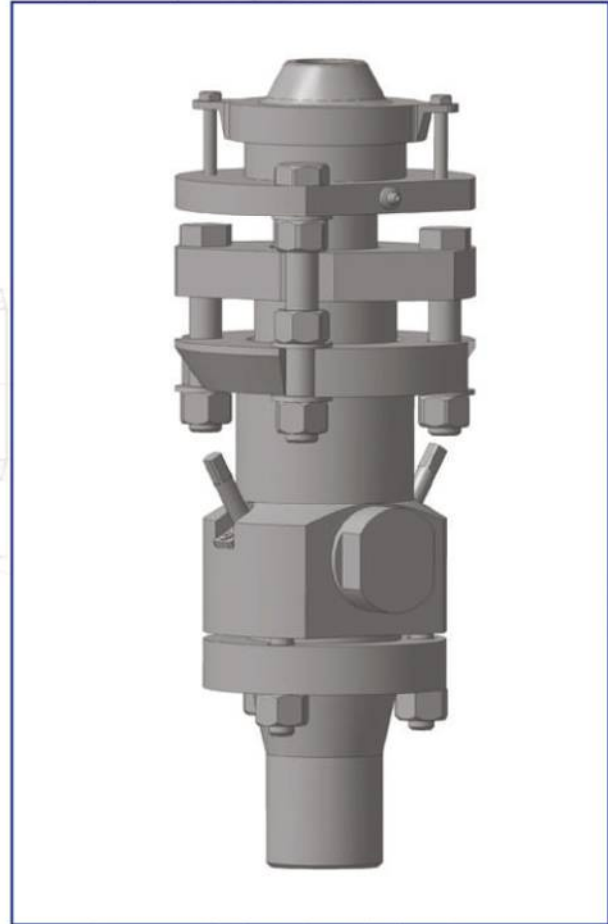
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## Stuffing boxes

Stuffing boxes SUSG-73-32HL-M, SUSG-73-32HL-M1, SUSG-73-32HL-M2 are designed for capsulation of polished rod of sucker-rod pump of a well. Stuffing box structure assures the following:

- automatic shutdown of well spring in case of rod breaking-down;
- replaceability of stuffing box without well killing operation;
- balancing of radial movement up to 4 mm at that keeping capsulation up to 1500000 cycles without replacement of sealing cup.
- Environmental safety during use of sucker – rod pumping unit.
- Capsulation of well spring at the time of long downtime (awaiting of repair, at flooding (overflow of river, lakes) by shut-off device - preventer).

In terms of design stuffing boxes are made in 3 designs with various functional capabilities



Main dimensions, mm

Code of sealing disc	Operating pressure				Thread A	Rod capsulation	Shut-off device for rod	Shut-off device in case of rod breaking down
	According to statistics		At the time of operation of sucker-rod pump					
	MPa	psi	MPa	psi				
CYCF-73-32XЛ-M	14	2000	4	590	73 GOST633 or V73 GOST633 or 27/8"UPTBG	+	-	-
CYCF-73-32XЛ-M1						+	+	-
CYCF-73-32XЛ-M2						+	+	+



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## Ball valve with replaceable chokes

Ball valves with replaceable chokes (КШД) are designed for control of operating Medium flow at pumping it to shelf as well as to other systems requiring flow control.

Valves design enables replacing choking cap through side window, at that valve is under pressure of operating Medium that allows reducing costs for changing system operating mode. Replacement of nozzles takes maximum 15 min.

Delivery of choking nozzles, counter-flange and fasteners shall be agreed upon ordering.



### Technical characteristics

Symbol	КШД 50x21ХЛ	КШД 65x21ХЛ-Ф
Nominal inside diameter, mm (inch) Operating pressure, MPa (psi)	50 (21/16) 21 (3000)	65 (29/16) 21 (3000)
Diameter of replaceable nozzles, mm	2,3,4,5,6,7,8,9,10,12,15,18 single-sided, arrowed	
Direction of operating Medium flow		
Flanges connection size	GOST 28919	RD 26-16-40