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INTERSTATE COUNCIL FOR STANDARDIZATION, METROLOGY AND CERTIFICATION
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Pipeline valves. Terms and definitions

— 2015—04—01

1

(—) -
 , (-
 , (-
 () .

2

2.1 (), (): - en pipeline valves; valves
 , - uk
 - ()

1

, , , -

2

2.2 : - en valve type
 uk

— : , -
 , , -

2.3 () : , en combined valves;
 multifunction valves
 uk & (-
)

2.4 : , - en valve type; basic
 types of valves
 - uk

— : , , -

2.5 : , - en single-type valves
 uk

2.6	:	- en parametric valve row; valve pressure/temperature rating uk
2.7	(); / :	- en type-table uk !
2.8	:	- en standard size uk Tnnopo3Mip
2.9	:	- en typical product uk
2.10	:	- en technical characteristics; specifications; performance data uk TexHiHHi
2.11	:	- en function indices uk
2.12	[ ] ( [	- en remote-controlled valves uk
2.13	:	- en generic group; model; type; version uk
2.14	:	- en antistatic version uk
2.15	(.):	- en working fluid uk
2.16	():	- en environment uk
2.17	:	- en control fluid uk

2.18	actuating/operating fluid
2.19	test fluid
2.20	cycle
2.21	block of valves: stack of valves
2.22	low pressure valves
2.23	medium-pressure valves
2.24	high pressure valves
2.25	main valves
2.26	impulse valves; pilot valves
2.27	non-reclosing valves
2.28	automatically actuated valves; self-closing valves
2.29	self-acting valves;
2.30	extended bonnet valves

2.31	:	,	en lined valves uk	-
2.32	:		en reinforced valves; metal-enclosed valves uk	-
2.33	:	,	en rubber lined valves; rubberized valves uk	-
2.34	:	,	en lined valves uk	-
2.35	:	,	en valve action; valve cycling; valve functioning uk	-
2.36	:	,	en bypass valves uk	-
2.37	:	,	en earthquake resisting valves; aseismic valves uk	-
2.38	:	,	en seismic-proof valves uk	-
2.39	:	,	en explosion-proof (-protected) valves; ex-proof valves uk	-
2.40	:	,	en fire-resistant valves uk	-
2.41	:		en valve mounting position uk ()	-
2.42	:	()	en valve description uk	-
2.43	:		en valve designation; valve identification uk	-

3**3.1**

- 3.1.1 : , on-off valves; shut-off valves; stop valves
- 3.1.2 (.): - uk !
check valves;
non-return valves
uk
(
Hoi'dii) -
- 3.1.3 : , - safety valves
uk)
- 3.1.4 - : , - diverted and mixing valves
uk ! - 1 -
- , «
» « » (. : - control valves
- :): , uk -
- 3.1.6 (): phase separating valves
uk -
| ;
- 3.1.7 : , - shut-off valve
uk -
- 3.2
- 3.2.1 - (. - - on-off and control valves
): , - uk 1 - -
(/ -)
- 3.2.2 - : , - stop and check valves
uk 1 -
- 3.2.3 - : , - stop non-return valves; stop and check valves
uk - 1
- 3.2.4 - : , - controllable non-return valves
uk - -

4

- 4.1 : , gate valve
uk

5.1.9	(.):	- en quick-acting valves; quick-operating valves; shut down valves uk ; (-)
5.1.10	:	- en inlet valves uk
5.1.11	:	- en antisurge valves uk
5.1.12	(. ,):	- en pressure-reducing valves (throttle valves) uk ()
5.1.13	(.):	- en bleed valves; blow-off (), valves; drain valves uk (-)
5.1.14	- :	- en sampling and bleed valves uk -
5.1.15	():	- en wellhead valves (oil-and-gas field valves) uk (-) (-) (-) ,)
5.1.16	() :	- en Christmas tree; x-mas tree (oil-and-gas field valves) uk (-))
5.1.17	[] :	- en Christmas tree uk ()
5.1.18	:	- en valves with heating; jacketed valves uk o6irpiBOM
5.1.19	:	- en energy valves; power valves uk -

5.2

- 5.2.1 : , « - en flangless valves;
- lug-type valves; valves
with flangeless body;
wafer type valves
uk -
- 5.2.2 (.): en wafer valves
uk 1 -
{ -
)
- 5.2.3 : , - en (female) screwed
valves
uk
- 5.2.4 (.): , en butt-weld valves
uk -
- 5.2.5 : , - en flanged valves
uk
- 5.2.6 : , - en (male) screwed valves
uk
- 5.2.7 : , - en union valves
uk

5.3

- 5.3.1 : , en encased valves;
valves with protective
covering/housing
uk -
- 5.3.2 : - en multiport valves;
multiway valves
uk -
- 5.3.3 (.): - en reduced bore valves
uk -
(
)
- 5.3.4 : , en full-bore valves
uk -
- 5.3.5 : , - en straight pattern (globe)
valves
uk
- 5.3.6 (.): - en Y-pattern valve;
- oblique valve;
straight-pattern valve
uk
{
45°.)

5.3.7	valves of (with) displaced nozzles (ends); valves of shifted (offset) nozzles (ends); valves with offset axes of the pipes	uk	1 - ; 3i -
5.3.8	three-way valves	uk	;
5.3.9	changeover device; switching device	uk	-
5.3.10	angle pattern valves	uk	!
5.3.11	axial valve	- uk);
5.3.12	cast valves	uk	
5.3.13	cast and welded valves	- uk	
5.3.14	cast, die and welded valves	- uk	
5.3.15	die and welded valves; stamped and welded valves	- uk	
5.3.16	one-piece body valves	uk	
5.3.17	split body valves	uk	
5.4			
5.4.1	glandless valves; packless valves	- uk	
5.4.2	diaphragm valves; membrane valves	- uk	
5.4.3	gland packing valves; packed valves	uk	

5.4.4	: , , ,	- en bellows valves uk
5.5		
5.5.1		
5.5.1.1	: , , ,	- en wedge gate valve uk
—	7.	
5.5.1.2	: , ,	en parallel gate valve uk
5.5.1.3	[]: , , []	- en gate valve with rising stem uk
5.5.1.4	: , ,	en gate valve with non-rising stem uk
5.5.1.5	(.): ,	- en slide gate valve; slab gate valve uk
5.5.1.6	(.): ,	- en pinch gate valve uk
5.5.1.7	: , ,	- en double disc wedge gate valve uk
5.5.1.8	: , ,	en flexible wedge gate valve uk
5.5.1.9	: , ,	- en double parallel disc gate valve uk
5.5.1.10	: , ,	- en rotatable gate valve uk
5.5.2		
5.5.2.1	() (.): ,	en on-off valve; stop valve uk 1 (')
5.5.2.2	: , ,	en control valve uk
5.5.2.3	: , ,	- en safety valve uk 1
5.5.2.4	: , ,	- en isolation valve uk 1 1

5.5.2.5	() (.	-	tight disc-type valve
uk	);	-	uk
5.5.2.6	()	-	(), (-)
-	():	-	air-to-open valve;
,	,	-	normally closed valve
uk	,	-	uk
5.5.2.7	« »	-	air-to-close valve;
-	():	-	normally open(ed) valve
,	,	-	uk
uk	« »	-	
5.5.2.8	:	-	solenoid valve
uk		-	uk
5.5.3		-	
5.5.3.1	(. ;):	-	conical cock; conical plug valve
uk		-	uk (-
5.5.3.2	(.):	-	cylindrical plug valve
uk	!	-	uk !
5.5.3.3	:	-	()
uk		-	ball valve
5.5.3.4	:	-	segmental ball valve
uk		-	uk
5.5.3.5	:	-	glandless plug valve
uk		-	uk
5.5.3.6	:	-	floating ball valve
uk		-	uk
5.5.3.7	:	-	trunnion ball valve
uk		-	uk
5.5.3.8	:	-	lift plug valve
uk		-	uk
5.5.3.9	:	-	test cock; draw cock
uk		-	uk
5.5.4		-	
5.5.4.1	:	-	concentric butterfly valve
uk		-	uk
5.5.4.2	:	-	eccentric butterfly valve
uk		-	uk

5.6

5.6.1

5.6.1.1

(,):

- en breathing valve (inlet, outlet); vent valve

uk

(,)

5.6.1.2

:

- en overpressure valve; relief valve

uk

-

5.6.1.3

(.):

- en directional valve; multi (three, four, etc.)-way valve

uk

1

(/)

5.6.1.4

:

- en double-seat control valve

uk

-

5.6.1.5

:

- en cage control valve

- uk

- ^

5.6.1.6

:

- en multi-stage control valve

uk

!

5.6.1.7

):

,

-

(

- en normally closed control valve

uk

-

-

5.6.1.8

):

-

(

- en normally open control valve

uk

-

-

5.6.1.9

:

- en single-seated control valve

uk

-

5.6.1.10

:

- en diverting control valve

uk

1

5.6.1.11

:

,

()

- en blending valve; mixing valve

uk

1

5.6.1.12

:

- en thermo-regulating valve

uk

5.6.1.13	: ,	needle valve uk
5.6.1.14	((.)): , - ((.))	pressure-reducing valve (throttle valve) uk
5.6.1.15	: , « »	() - pressure relief valve; cross valve uk
5.6.2		
5.6.2.1	(.): , - uk ()	regulator; controller
5.6.2.2	: , (	direct action regulator uk
5.6.2.3	.) (.): , —	- indirect action regulator; pilot-actuated regulator uk
5.6.2.4	: ,	fliT pressure controller uk
5.6 2.5	« »: ,	upstream pressure controller uk
5.6 2.6	« »: ,	« ! » downstream pressure controller uk
5.6.27	: « », , - uk	domestic pressure regulator; house pressure regulator - uk
5.6.2.8	: , (- uk	differential pressure regulator
5.6.2.9	: , - uk	flow control valve
5.6.2.10	: , , - uk	temperature regulator -
5.6.2.11	: , - uk	level controller piBHfl
5.6.2.12	: , - uk	combined pressure differential and flow controller uk

5.6.2.13	combined pressure differential, flow and temperature controller	uk	1	-
5.6.2.14	combined pressure differential and flow controller with an additional electric actuator	uk	1	-
5.7	safety valve block	uk	1	-
5.7.1	direct-loaded safety valve; deadweight safety valve	uk	1	-
5.7.2	double-seated safety/relief valve	uk	1	-
5.7.3	pilot-operated safety valve	uk	1	-
5.7.4	low lift safety/relief valve	uk	1	-
5.7.5	ordinary (lift) safety/relief valve	uk	1	-
5.7.6	full lift safety/relief valve	uk	1	-
5.7.7	(direct) spring-loaded safety/relief valve	uk	1	-
5.7.8		uk	1	-

5.7.9	:	-	direct-acting	
,	,	-	safety/relief valve	
,	,	- uk	1	
5.7.10	(	-	indirect operated safe-	
)	,	-	ty valve; pilot operated	
		- uk	safety/releif valve	
			1	
			1	(-
				-
5.7.11	:	-	piston-operated safe-	
,	,	- uk	ty/relief valve	
			1	-
5.7.12	(.	-	proportional safety/	
,	):	-	relief valve	
		- uk	!	-
				(-
			!	-
				-
5.7.13	:	-	weight-loaded lever-	
,	,	-	operated safety/relief	
,	,		valve; lever-and-	
			weight loaded	
			safety/relief valve	
		uk	1	-
5.7.14	:	-	spring-loaded lever-	
,	,	-	operated safety/relief	
			valve	
		uk	!	-
5.7.15	:	-	safety/relief valve with	
,	,	- uk	gas chamber	
			!	
5.7.16	(	-	diaphragm safety/	
)	):	- uk	relief valve	
,	,		1	
				-
				(-
				-
5.7.17	:	-	bellows safety relief	
,	,	- uk	valve	
			!	-
5.7.18	:		pop(ping) safety relief	
,	()	uk	valve	
			1	
				(-
)

5.7.19	:	,	-	temperature-actuated safety valve
			uk	1
5.7.20	-	():	-	pilot-operated safety valve
	,		uk	1 - & - 1
5.7.21	-	():	-	rupture disc device
	,		uk	- -
	—		-	
	,	(-	
)			
5.7.22	-	():	-	safety device with rupture disc
	,	-	uk	- 1 - 1
5.8				
5.8.1	:	,	uk	check valve
5.8.2	(.):	,	uk	swing check valve
				(-)
5.8.3	:	,	uk	foot valve; intake valve
5.8.4	:	,	-	lift check valve
	-		- uk	
5.8.5	:	,	- uk	axial check valve
5.8.6	-	(.):	-	stop non-return valve; stop and check valve
	,		uk	- !
				(
)
5.8.7	-	:	-	controllable non-return valve
	,		uk	- -
5.8.8	-	:	-	non-return valve; stop and check valve
			uk	8 - 1 -
5.8.9	-	:	-	controllable non-return valve
	,		uk	- -

5.8.10	():	- shut-off valve
		uk ()
5.8.11	:	- duo plate check valve
		uk -
5.9		
5.9.1	:	- steam trap; trap
		uk 1 1
5.9.2	():	- float steam trap
		uk 1 -
		() -
5.9.3	:	- thermodynamic steam trap
		uk ! 1 -
5.9.4	:	- thermostatic steam trap
		uk -
5.9.5	:	- labyrinth steam trap
		uk & -
5.9.6	():	- air release valve; air relief valve; air trap
		uk ;
		! 1 1
		()
5.10		
5.10.1	():	- pressure relief device; reducing device
1)		uk 1
		()
2)		-
5.10.2	(:—)	- level indicator
		uk 1
5.11		
5.11.1	:	- indirect-acting valves; pilot operated valves
		uk !
5.11.2	(: ,)	- direct-acting valves
		uk
5.11.3	- ():	- air-to-open valves; normally closed valves
		uk -
	« , »	

5.11.4	():	- air-to-close valves; normally open valves
	,	- uk -8
	« »	
6	()	
6.1		
6.1.1	:	nominal valve parameters
	,	- uk HOMinambHi -
6.1.2	PW(HpK.):	nominal pressure
20 °C,	/ ² ,	- uk 1
	()	-
	,	-
6.1.3	20 ' DN (.	; nominal diameter
):	:	uk 1 !
	,	(/
—		:
	,	- npoxid;
	,	- pO3Mip;
	.	/ ; / -
		npoxid)
6.1.4	F _p :	- line pressure;
—	.	operating pressure;
	.	service pressure;
		working pressure
6.1.5	:	- design pressure
—	.	uk
6.1.6	, P _h (.	- test pressure
1)):	,	uk (
2) ;	,	- ;
	,	-)
	5 ' 70 °C,	
6.1.7	:	- control pressure
	,	uk
6.1.8	:	- pressure drop;
—		pressure difference
	,	-
	.	-
6.1.9	()	- allowable (maximum)
	,	- pressure drop
		uk (-
—	.)

6.1.10	AP_{\min} :	en minimum pressure drop uk 1 1
6.1.11	7:	en design temperature uk -
6.1.12	[1] ξ () ()	- en flow resistance - coefficient uk (& / -)
6.1.13	:	- en friction (pressure) loss uk ! onip
6.1.14	:	en torque uk -
6.1.15	h :	en valve stroke (travel) uk
()		-
6.1.16	h_n () h_y :	- en nominal stroke/travel; rated stroke/travel uk (xid)
6.1.17	h_{\max} :	- en maximum travel uk $xifl$
6.1.18	/»,:	- en travel uk $xifl$
6.1.19		- en stroke ratio; travel ratio uk
6.1.20	:	- en turning angle; rotary angle uk
6.1.21	:	- en nominal rotation angle uk 1
6.1.22	:	- en maximum rotation angle uk
6.1.23	:	en current turning angle; current rotary angle uk -
6.1.24	:	en relative turning angle uk -
6.1.25	:	en tightness uk -

6.1.26	:	- en effective closure; - leak-proof closure - (closing); sealing uk
6.1.27	:	- en seat leakage uk
6.1.28	(): ,	- en leak tight rate; tightness rate uk
6.1.29	:	- en tightness degree uk 1 TM
6.1.30	L:	- en end to end dimension; - end to end length; face to face dimension; centre to end dimension uk 1
6.1.31	:	- en center-to-top uk 1
6.1.32	: « »	en closing time; shut-down time uk
6.1.33	: « »	en opening time uk
6.1.34	:	en response time uk
6.1.35	(): ,	- en flow area uk ;
6.1.36	:	(<i>npoxid</i>) en orifice (bore) to nominal size ratio uk
6.1.37	(): 1) ; 2)	en leak; leakage uk BHTiK
6.1.38	: 20 , 760 . . (101325 / ²),	en normal conditions uk
63	— « ».	8.615—2013 2939—
6.1.39	:	- en integrity uk 1 1

6.1.40	:	,	-	sound level
			uk	!
6.1.41			uk	effective diameter
				1
6.2				
6.2.1	(	) , $^{3/}$: Be-		flow capacity (control valves)
	,	1000 / 3 ,		
	,	0,1 (1 / 2) uk		
6.2.2	$^{3/}$ (.			rated flow capacity;
	):			nominal flow capacity
			uk	
				(!)
6.2.3	,	$^{3/}$:	-	initial flow capacity
	,		, uk	
6.2.4		$K_{v \min}$ $^{3/}$:	-	minimum discharge capacity; minimum flow capacity
	,		uk	
6.2.5			-	relative flow capacity
			uk	
6.2.6		$^{3/}$:	-	actual flow capacity;
				maximum flow capacity;
				true flow capacity
			uk	
6.2.7	3 , %:		-	relative leakage rate
	,		- uk	1 ;
	($^{3/}$),	1000 / 3 ,		
			-	
	0,1 ,			
6.2.8	:			flow characteristic; flow control characteristic
			uk	-
6.2.9	:		-	inherent flow characteristic
	,		uk	-
6.2.10	:		-	linear flow characteristic
	,		-	
	=	= KJK^{\wedge} :	- uk	-
	;—	(—)	-	
6.2.11	:		-	equal percentage flow characteristic
	,		- uk	-
			-	piBHonpo-
	= ' h<			

6.2.12	():	- design feature/ characteristic	uk	-
6.2.13	$= \frac{\quad}{\{W-FN_2\}}$	- cavitation flow characteristic	uk 1	-
6.2.14	; :	- special flow characte- ristic	- uk	-
6.2.15	:	- working/operating flow characteristic	uk	-
6.2.16	(.):	- rangeability	uk	-
6.2.17	:	- regulator range setting	uk	-
6.2.18	8 :	- dead zone	uk	-
6.2.19	:	- insensitivity	uk	-
6.2.20	:	- zone of proportionality; proportional-control band	uk	-
6.2.21	10 % 90 % :	- regulation zone; control range; control band	uk	-
6.2.22	(.):	- (inception) cavitation factor	uk	-
	$Q = l(\sqrt{\quad})$	-	- uk	-
	$-Q-$	-	- uk	-
6.2.23	$C_{fa}:$	- critical discharge factor at air flow	uk	-
6.2.24	$C_{fr}:$	- critical discharge factor at gas flow	uk	-

6.3			
6.3.1	p_3 ():	- en reseating pressure; closing pressure - uk ()	
6.3.2	: ,	- en set(ing) pressure - uk	
6.3.3	— ():	- en setting range of the safety valve uk Aiana3OH 1	
6.3.4	; ():	- en initial opening pressure; starting pressure; breakloose pressure uk ()	
6.3.5	; ():	- en full opening pressure - uk	
6.3.6	():	- en bursting (rupture) pressure uk ()	
6.3.7	:	- en leak-off pressure - uk	
6.3.8	:	- en popping pressure - uk	
6.3.9	:	- en back pressure; counter pressure uk	
6.3.10	() G,	- en flow rate (safety valve) uk (1)	
6.3.11	[; < p_2]: []	- en gas discharge coeffi- cient (liquid discharge coefficient) uk []	
6.3.12	d_c :	- en internal seat diameter uk 1	
6.3.13	$a_1 F$ [p_2]:	- en effective valve area for gas (for liquid) uk []	

6.3.14	F :	en seat area uk 1
6.4		
6.4.1	$[\quad] F^{\wedge}$ (\quad)	- en effective bellows (diaphragm) area uk [\quad]
	$- F^{\wedge} - q/P, \quad q -$ (\quad), $-$	-
6.4.2	:	- en bellows stiffness uk
	$-$: $-$; $-$: $-$ „„	
7		
7.1	:	- en yoke - uk -
	(\quad), ,	
7.2	:	- en shaft - uk
7.3	(\quad):	- gland bushing uk
7.4	:	(\quad) en pressure containing parts; shell uk !
	$-$ (\quad) ,	-
7.5	:	- en main components (parts) uk 1
	$-$.	
7.6	:	en disk (disc) uk
7.7	:	- throttle; throttling - device uk
	« \quad »	
7.8	:	- en end-cap; plug uk
7.9	:	, en disc assembly; trim - uk
	$-$ (\quad), ,	
7.10	:	en disc; plug; obturator; plate; needle; piston (depending on shape) - uk
	(\quad), - ,	

7.11	:			- en uk «
7.12	:			- body uk
7.13	:			- en flow area uk
7.14	:			- en bonnet; cover uk
7.15	():			- en stem nut - uk
7.16	-	()		- en bursting diaphragm; - bursting disk; rupture - disc - uk - & ()
7.17	:			- en packing uk - -
7.18	:			en inlet pipe (valve end, nozzle) uk 1
7.19	:			en outlet pipe (valve end; nozzle) uk
7.20	:			- en fitting - uk -
7.21	():			- en transition pipe uk ()
7.22	:			en plunger - uk
7.23	:			en plug - uk
7.24	:			- en seat uk

7.25	:	- u	bellows
1	.	-	
2	—		
7.26	:	- uk	seal; sealing
7.27	:	- uk	back seat; stem sealing
7.28	:	- uk	liquid metal seal
7.29	:	uk	static seal
7.30	:	- uk	dynamic seal
7.31	():	, uk	gland packing; gland seal
7.32	:	- uk	bellows seal
7.33	:	uk	backup gland; secondary packing
7.34	:	- uk	position indicator
7.35	:	- uk	sealing surface; sealing face
7.36	:	uk	flange

7.37	:	,	-	gasket
			-	uk
7.38	:	,	-	heat jacket
			-	uk o6irpiey
7.39	:	,	-	lift/travel/stroke part
			-	uk
7.40	:	,	-	en slab; knife; sliding gate;
			-	sliding plate
			-	uk
7.41	:	,	-	en spindle; stem
			-	uk
7.42	:	,	-	en outside screw stem
	,	,	-	(spindle)
	-	,	-	uk
7.43	:	,	-	en inside screw stem
	,	,	-	(spindle)
	,	,	-	uk
7.44	:	,	-	en stem
			-	uk
7.45	:	,	-	en element
	,		-	uk
7.46	;	(. ;	-	en closure (closing) mem-
	;);	-	ber
	,		-	uk
			-	(;
			-	;
			-)
7.47	;	(.):	-	en controlling member;
	,	,	-	plunger
	,	,	-	uk
			-	(
			-)
7.48	:		-	sensitive element
	,	,	-	uk
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7.49	:	,	-	en leak detector
			-	uk
7.50	:		-	en wedge
			-	uk
7.51	:		-	solid wedge
			-	uk
7.52	:	,	-	double disc wedge
			-	uk

7.53	:	,	-	en flexible wedge uk
7.54	:	,	-	en locking device uk
8 *				
8.1	:	,	-	en test bench; test rig uk
	,	,	-	
8.2	:			en test procedure uk
8.3	:			en inspection method uk
8.4	:	,	-	en basic tests uk
8.5	-	:		en acceptance tests uk
8.6	:		-	en special tests uk cneuianbHi
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8.7	:	,	-	en hydraulic tests; hydro- static tests uk riApaeni4Hi
8.8	:	,	-	en pneumatic tests uk
8.9	:			en seismic tests uk
8.10	(	):	-	en functional tests uk
8.11	:			en vibration tests uk
8.12	:			Bi6pOMiuHicTb en seat leakage tests uk
8.13	:			en fugitive emission tests uk

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8.14	:	,	concentration
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9.1.1	:		valve reliability
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9.1.2	:	-	reliability indices
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9.1.3	:	-	fail-safe work; reliability
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9.1.4	:	-	longevity; durability
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9.1.5	:	-	repairability
		uk	
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9.1.6	:		persistence; retentivity
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9.1.7	:	-	valves to be recondi- tioned
	,	uk	-
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9.1.8	:	-	valves not to be reconditioned;
	,	-	unrepairable valves
		uk	
	—	-	
9.1.9	:		repairable valves; main- tainable valves
	,	uk	-
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9.1.10	—	:	,	'	en nonrepairable valves; unrepairable valves; valves not to be recon, ditioned uk
9.1.11	—	:			en valve failure uk
9.1.12	()	:	,		en the criterion of failure uk
9.1.13	()	:	,	-	en sudden failure uk
9.1.14		:	,	-	en secondary failure; dependent failure uk
9.1.15	()	:	,	-	en design failure uk
9.1.16		:	,	-	en critical failure uk
9.1.17		:	,	-	en uncritical failure uk
9.1.18		:	,	-	en manufacturing failure uk
9.1.19		:	,	-	en misuse failure; in-service failure uk
9.1.20		:	,	-	en limiting state uk
9.1.21		:	,	-	en limiting state criterion uk 1
9.1.22		:	,	-	en unserviceability; disabled state uk
9.1.23		:	,	-	en service time (up to re- tirement, midlife repair, overhaul repair); life time; useful life uk ; TepMiH [, Kani-]

9.1.24	[, ,]:	- en resource [up to retirement, midlife repair, overhaul repair] uk [, , Kani-]
9.1.25	:	en operating time to failure uk
9.1.26	: , ,	() en shelf life; storage life uk TepMiH
9.1.27	: , ,	- en failure intensity; - failure rate uk iHTeHCHBHicTb
9.2		
9.2.1	:	en full service life uk
9.2.2	— . . :	en mean service life uk TepMiH
9.2.3	: ,	- en service resource; - total service life uk
9.2.4	— . . :	en mean life uk 1
9.2.5	:	en mean operating time to failure uk -
9.2.6	():	- en mean time between failures uk (-)
9.2.7	: ,	en probability of no-failure operation uk BiporiAHicTb
9.2.8	:	en mean shelf life uk TepMiH 1
9.2.9	:	- en mean reconditioning time uk
9.2.10	:	- en mean reconditioning labour-output ratio uk TpyfIOMicTKicTb

10**10.1**

- 10.1.1 : , () uk valves safety
- (), ,
- 10.1.2 : , - valve safety indices
8 , () - uk
- 10.1.3 (): - critical limiting valve state (valve limit state to valve critical failure)
, - - uk (-
- 10.1.4 : - critical limit state criterion
, uk 1
- 10.1.5 () : , - safety systems (elements) valves
(), uk
- 10.1.6 (), : , safety important systems (elements) valves
() , (- uk
, - uk (), -
- 10.2**
- 10.2.1 : , (- probability of failure-free operation to valve critical failure; probability of trouble-free operation to critical failures
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- 10.2.2 : , - operational availability factor
, , - uk
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10.2.3	*	:	-	en assigned service life uk
10.2.4	—	:	-	en assigned resource; specified life uk
10.2.5	—	:	-	en specified (assigned) shelf life uk TepMiH
10.2.6	—	:	-	en full assigned (specified) life uk
10.2.7		:	-	full assigned (specified) service life uk TepMiH
10.2.8	:		-	risk; hazard uk
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11.1	:		-	actuator uk
11.2	(.):		-	actuator uk ()
11.3	:		-	load-bearing element uk
11.4	:		-	gear uk
11.5	:		-	handwheel uk
11.6	:		-	handle uk
11.7	:		-	manual actuator uk

11.8	:	,	-	uk	electric actuator
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11.9	:	,	-	uk	solenoid actuator
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11.10	:	(,	-	pneumatic actuator
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11.11	:	,	-	uk	hydraulic actuator
11.12	:	.		-	pneumatic and hydrau- lic actuator
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11.13	:		-	uk	electrohydraulic actuator
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11.14		;	:	- uk	diaphragm actuator
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11.15		;	:	-	cylinder (piston) actua- tor
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11.16		;	:	-	electric motor actuator
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11.17	-	()	-	reciprocation electric actuator
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11.18	:			-	multi-turn electric actuator
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11.19	:			-	part-turn electric actuator
				uk	
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11.20	:	,	-	uk	positioner; valve positioned

11.21	8	:	,	-	hydraulic positioner
				uk	1 1
11.22		:	,	-	en pneumatic positioner
				uk	
11.23		:	,	-	en electric positioner
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11.24		:	,		en electrohydraulic positioner
				uk	1
11.25		:	,		en electropneumatic positioner
				uk	
11.26		:	,	-	en manual operator
				uk	
11.27		(	):		en valve position indicator;
					on-off indicator; open-
				-	closed indicator
				uk	1
11.28		:	,	-	en injet drive; jet actuator
				uk	
11.29		:	,	-	en paddle-pneumatic actu-
					ator; vane pneumatic
				uk	actuator
11.30		():	-	en reciprocating actuator
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11.31		:	,	-	en multi-turn actuator
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11.32		:	,		en part-turn actuator
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11.33		:	,	-	en pneumatic control valve
				-	uk 1 ;
11.34		:		-	en switch
				uk	
11.35		():	-	en limit switch; end switch
				-	uk
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11.36	(.):	- en travel switch; position switch uk
11.37	: —	- en torque axial switch; torque axial limiter uk
11.38	:	- en remote control uk 1
11.39	:	- en local control uk
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12.1		
12.1.1	: , ,	- en alarm mode; abnormal mode; emergency mode uk
12.1.2	: , ,	- en normal operation; normal operation mode uk
12.1.3	: ,	- en type of explosion protection uk
12.1.4	: , , ,	- en potentially explosive environment uk 1 ce-
12.2		
12.2.1	: , , ()	- en unrestricted reconditioning discipline uk
12.2.2	: , ,	- en restricted reconditioning discipline; specified reconditioning discipline uk
12.2.3	:	- en diagnosis; diagnostics uk !
12.2.4	:	- en defect uk
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12.2.5	:		maintenance;
1)	,		technical service
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12.2.6	[]:	-	en periodicity of mainten-
		-	ance (repair)
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12.2.7	:		en repair
		-	uk
12.2.8	:		- en maintenance; current
	,	()	repair; routine repair;
			running repair
		uk	
12.2.9	:		- en intermediate
	,		maintenance
		-	uk !
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12.2.10	:		en overhaul; capital
	,	-	repair;
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