SLOVENSKI STANDARD
SIST EN ISO 5210:2017/oprA1:2022

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Industrijski ventili - Priključki vrtilnih pogonov na ventilih - Dopolnilo A1 (ISO 5210:2017/DAM 1:2022)

Industrial valves - Multi-turn valve actuator attachments - Amendment 1 (ISO 5210:2017/DAM 1:2022)

Industriearmaturen - Anschlüsse von Drehantrieben für Armaturen - Änderung 1 (ISO 5210:2017/DAM 1:2022)

Robinetterie industrielle - Raccordement des actionneurs multitours aux appareils de robinetterie - Amendement 1 (ISO 5210:2017/DAM 1:2022)

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ICS:

23.060.01	Ventili na splošno	Valves in general

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DRAFT AMENDMENT
ISO 5210:2017/DAM 1

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Industrial valves — Multi-turn valve actuator attachments

AMENDMENT 1

Robinetterie industrielle — Raccordement des actionneurs multitours aux appareils de robinetterie
AMENDEMENT 1

ICS: 23.060.01

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This document was prepared by Technical Committee ISO/TC 153, *Valves*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 69, *Industrial valves,* in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

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Industrial valves — Multi-turn valve actuator attachments

AMENDMENT 1

7.3, first paragraph

Replace the first paragraph by the following:

Dimensions for assemblies of group B shall be as shown in Figures 6 and 7, given in Table 5 and for dimensions of keys and keyways, refer to Annex B.

7.5, first paragraph

Replace the first paragraph by the following:

Dimensions for assemblies of group D shall be as shown in Figure 9, given in Table 7 and for dimensions of keys and keyways refer to Annex B.

Annex B

Add the following new normative Annex B.

Annex B
(normative)

Dimensions of keys and keyways

B.1 Basis for keys and keyways dimensioning

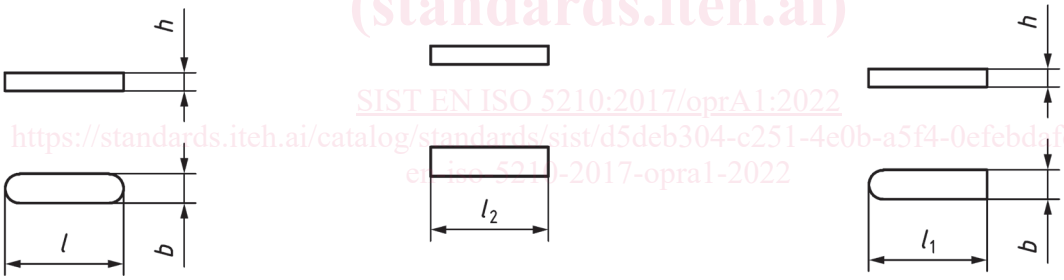
With ISO R773:1969 being withdrawn, there is currently no international standard defining keys and keyways available. Since for Group B (see 7.3) and Group D (see 7.5), keys and keyways are the means to transfer torque from the actuator to the valve, information on design and dimensions is given in Annex B.

B.2 Key and keyway forms

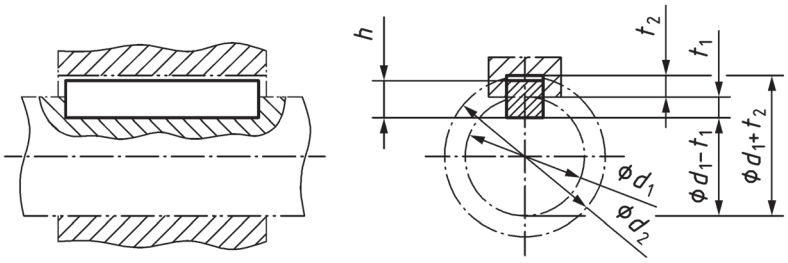
Forms for key and keyway shall fulfill the requirements given in Figure B.1 to Figure B.3.

Keys and keyways according to low patterns are not described in this Annex.

Bolts for retaining of keys, slants for disassembly of keys and holes for spiral pins are common with larger key sizes, but are not described in this Annex.



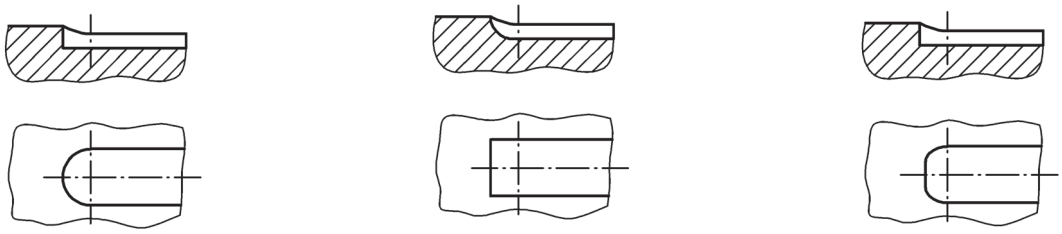
a) Form A round-ended **b) Form B square-ended** **c) Form AB combination of A and B**



d) Cross section through key and keyway connection, definition of the depths t_1 and t_2

NOTE $l_2 = l - 2\left(\frac{b}{2}\right)$ and $l_1 = l - \left(\frac{b}{2}\right)$.

Figure B.1 — Key forms

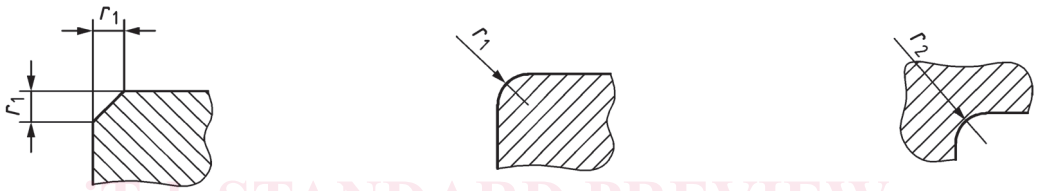


a) Keyway form N1 (groove by end mill)

b) Keyway form N2 (groove by disc milling cutter)

c) Keyway form N3 (according to specification by valve manufacturer)

Figure B.2 — Keyway forms for valve shafts



a) Chamfer (according to manufacturer of key)

b) Radius (according to manufacturer of key)

c) Radius at base of groove for shaft and hub

NOTE Chamfer and radius [Figures B.3 a) and b)] are chamfered/rounded (at all edges).

Figure B.3 — Chamfering/rounding for key/rounding at base of groove

B.3 Dimensions and tolerances (cross section and design details)

The dimensions of the keys and keyways, as well as their acceptable deviations, shall be in accordance with those given in Tables B.1 and B.2.

Table B.1 — Dimensions and tolerances of keys, part 1

Key cross section			width b	5	6	8	10	12	14	16	18	20	22
			height h	5	6	7	8	8	9	10	11	12	14
For shaft diameter d_1[a]			above	12	17	22	30	38	44	50	58	65	75
			until	17	22	30	38	44	50	58	65	75	85
Shaft groove	Width b[b]	tight fit P9 loose fit N9		5	6	8	10	12	14	16	18	20	22
	Depth t_1[c]	with clearance		3	3,5	4	5	5	5,5	6	7	7,5	9
		or interference	accepted deviation	0,1		0,2							
Hub groove	Width b[b]	tight fit P9 loose fit JS9		5	6	8	10	12	14	16	18	20	22
	Depth t_2[c]	with clearance		2,3	2,8	3,3	3,3	3,3	3,8	4,3	4,4	4,9	5,4
			accepted deviation	0,1		0,2							
		with interference[d]		1,7	2,2	2,4	2,4	2,4	2,9	3,4	3,4	3,9	4,4
			accepted deviation	0,1		0,2							
a				—	—	3	3	3	3,5	4	4,5	5	5,5
d_2 minimum dimension[e]			d_1+	5	6	8	8	8	9	11	11	12	14
Chamfer or radius r_1			min.	0,25			0,4					0,6	
			max.	0,4			0,6					0,8	
Radius at base of groove r_2			max.	0,25			0,4					0,6	
			min.	0,16			0,25					0,4	
Length l	accepted deviation			Weight (7 850 kg/m^3) for form B (kg/1 000 pieces) ≈									
	Key	Keyway											

[a] For mounting dimensions, especially for cylindrical shaft ends, the assignment of key cross sections to the shaft diameter is followed essentially. The assignment of key cross section for tapered shaft ends and the dimensions of the grove depths are not defined in this Annex.

[b] The tolerance zones for groove width are given as a rule for milled grooves. Other tolerance zones can be agreed between end-user and/or valve and actuator manufacturer. For the width of broached grooves the ISO quality IT8 instead of IT9 (e.g. P8 instead of P9, N8 instead of N9 and JS8 instead of JS9) is recommended. For sliding fit of the key, the tolerance zone H9 for the shaft groove and D10 for the hub groove are recommended.

[c] In manufacturing drawings the dimensions t_1 and (d_1-t_1) as well as t_2 and (d_1+t_2) can be recorded parallel, however in many cases the dimensions t_1 and (d_1+t_2) are sufficient. The tolerances and machining allowances of shaft and hub bore can be considered.

[d] The groove depth with oversize is meant exceptionally, if the key is fitted through reworking.

[e] The values for d_2 correspond to the smallest diameter of parts, which are slid on concentrically over the key.