



SLOVENSKI STANDARD
SIST EN 14420-6:2013

01-september-2013

Nadomešča:

SIST EN 14420-6:2005+A1:2007

Cevni fitingi z objemkami - 6. del: Spojke za TW cisterne

Hose fittings with clamp units - Part 6: TW tank truck couplings

Schlaucharmaturen mit Klemmfassungen - Teil 6: TW Tankwagen-Kupplungen

Raccords pour flexibles avec demi-coquille - Partie 6: Raccords TW pour camion-citerne
iTeh STANDARD PREVIEW
(standards.iteh.ai)

Ta slovenski standard je istoveten z: EN 14420-6:2013

<https://standards.iteh.ai/catalog/standards/sist/6d9fe42b-a5cb-4c66-8228-6e8b6f54d21/sist-en-14420-6-2013>

ICS:

23.040.60 Prirobnice, oglavki in spojni elementi Flanges, couplings and joints

SIST EN 14420-6:2013

en,fr,de

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN 14420-6:2013

<https://standards.iteh.ai/catalog/standards/sist/6d9fe42b-a5cb-4c66-8228-6c8b6f54df21/sist-en-14420-6-2013>

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 14420-6

July 2013

ICS 23.040.70

Supersedes EN 14420-6:2004+A1:2007

English Version

Hose fittings with clamp units - Part 6: TW tank truck couplings

Raccords pour flexibles avec demi-coquille - Partie 6:
Raccords TW pour camion-citerne

Schlaucharmaturen mit Klemmfassungen - Teil 6: TW
Tankwagen-Kupplungen

This European Standard was approved by CEN on 15 May 2013.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.

[SIST EN 14420-6:2013](https://standards.iteh.ai/catalog/standards/sist/6d9fe42b-a5cb-4c66-8228-6c8b6f54df21/sist-en-14420-6-2013)

<https://standards.iteh.ai/catalog/standards/sist/6d9fe42b-a5cb-4c66-8228-6c8b6f54df21/sist-en-14420-6-2013>



EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: Avenue Marnix 17, B-1000 Brussels

Contents

Page

Foreword.....	3
1 Scope	5
2 Normative references	5
3 Terms and definitions	6
4 Fitting combinations	6
5 Dimensions, designations	6
5.1 Hose fittings with TW couplings	6
5.2 Male coupling (type VK)	10
5.3 Female coupling (type MK)	15
5.4 Dust cap (type MB)	23
5.5 Dust plug (type VB).....	27
6 Materials	31
6.1 General.....	31
6.2 Hose tail types MKST and VKST	31
6.3 Protecting rings of hose tail type MKST and VKST	31
6.4 Thread gasket of male coupling type VK	32
6.5 Fastening component of female coupling type MK	32
6.6 Main gasket of female coupling type MK	32
7 Design	32
8 Fitting of hose couplings	33
9 Marking	33
10 Type testing and quality control	33
Annex A (normative) Gauges for TW tank truck couplings	34
A.1 General.....	34
A.2 Design; designation, dimensions and materials	34
A.3 Marking	49
Bibliography	50

ITeH STANDARD PREVIEW
(standards.iteh.ai)

SIST EN 14420-6:2013

https://standards.iteh.ai/catalog/standards/sist/6d9fb42b-a5cb-4c66-8228-

6c8b6f54d21/sist.en.14420-6-2013

Foreword

This document (EN 14420-6:2013) has been prepared by Technical Committee CEN/TC 218 "Rubber and plastics hoses and hose assemblies", the secretariat of which is held by BSI.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by January 2014, and conflicting national standards shall be withdrawn at the latest by January 2014.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 14420-6:2004+A1:2007.

In comparison to EN 14420-6:2004+A1:2007, the following changes have been made:

- In Clause 1, the warning paragraph has been revised.
- In Clause 2, the normative references have been updated.
- A new Clause 3 "Terms and definitions" has been added.
- The term "sealing ring" has been replaced by "gasket" (main gasket/thread gasket).
- Clause 4 "Survey" has been renamed "Fitting combinations".
- In 5.2.2.3, the body designation of a male coupling (DN 100) has been changed.
- In 5.4.2.3, the designation of a dust cap has been changed.
- In 5.5.2.3, the designation of a dust plug has been changed.
- The requirements on thread gasket materials in 6.4 and main gasket materials in 6.6 have been revised.
- In Clause 9, the requirements for marking have been reviewed.
- Content of Clause 10 "Type testing and quality control" has been replaced by a reference to EN 14420-1.
- The standard has been revised editorially.

EN 14420, *Hose fittings with clamp units* consists of the following parts:

- *Part 1: Requirements, types of fixing and connection, designation and testing*
- *Part 2: Hose side parts of hose tail*
- *Part 3: Clamp units, bolted or pinned*
- *Part 4: Flange connections*
- *Part 5: Threaded connections*

EN 14420-6:2013 (E)

- *Part 6: TW tank truck couplings*
- *Part 7: Cam locking couplings*
- *Part 8: Symmetrical half couplings (Guillemin system)*

According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

iTeh STANDARD PREVIEW **(standards.iteh.ai)**

[SIST EN 14420-6:2013](https://standards.iteh.ai/catalog/standards/sist/6d9fe42b-a5cb-4c66-8228-6c8b6f54df21/sist-en-14420-6-2013)

<https://standards.iteh.ai/catalog/standards/sist/6d9fe42b-a5cb-4c66-8228-6c8b6f54df21/sist-en-14420-6-2013>

1 Scope

This European Standard specifies the fitting combinations, design, materials and dimensions for hose fittings with couplings for tank trucks (TW couplings).

Couplings for tank trucks in accordance with this document are intended to link hoses with connections for the transport of liquids, solid matters and gases with the exception of liquid gas and steam. They can be employed in a working pressure range of $-0,8 \text{ bar}^1$) up to 16 bar at working temperatures of -20 °C up to $+65 \text{ °C}$. Couplings for tank trucks for other operating conditions are subject to agreement.

WARNING — Male and female dust couplings are pressure resistant plugs. They do not fulfil the function of a locking device, which should be installed in any case as long as the hose assembly is under pressure.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 586-2, *Aluminium and aluminium alloys — Forgings — Part 2: Mechanical properties and additional property requirements*

EN 10083-2, *Steels for quenching and tempering — Part 2: Technical delivery conditions for non alloy steels*

EN 10088-1, *Stainless steels — Part 1: List of stainless steels*

EN 10213, *Steel castings for pressure purposes*

EN 12420, *Copper and copper alloy — Forgings*

EN 14420-1:2013, *Hose fittings with clamp units — Part 1: Requirements, types of fixing and connection, designation and testing*

EN 14420-2, *Hose fittings with clamp units — Part 2: Hose side parts of hose tail*

EN 14420-3, *Hose fittings with clamp units — Part 3: Clamp units, bolted or pinned*

EN 14420-5: 2013, *Hose fittings with clamp units — Part 5: Threaded connections*

EN 22768-1, *General tolerances — Part 1: Tolerances for linear and angular dimensions without individual tolerance indications (ISO 2768-1)*

EN 22768-2, *General tolerances — Part 2: Geometrical tolerances for features without individual tolerance indications (ISO 2768-2)*

EN ISO 4042, *Fasteners — Electroplated coatings (ISO 4042)*

EN ISO 8330:2008, *Rubber and plastics hoses and hose assemblies — Vocabulary (ISO 8330:2007)*

1) 1 bar = 0,1 MPa.

EN 14420-6:2013 (E)**3 Terms and definitions**

For the purposes of this document, the terms and definitions given in EN ISO 8330:2008 and the following apply.

3.1
DN (nominal size)
alpha-numeric designation of size for components of a pipework system, which is used for reference purposes. It comprises the letters DN followed by a dimensionless whole number which is indirectly related to the physical size, in millimetres, of the bore or outside diameter of the end connections.

Note 1 to entry: The number following the letters DN does not represent a measurable value and should not be used for calculation purposes except where specified in the relevant standard.

Note 2 to entry: In those standards which use the DN designation system, any relationship between DN and component dimensions should be given, e.g. DN/OD or DN/ID.

[SOURCE: EN ISO 6708:1995, 2.1]

3.2
main gasket
interface gasket between the male and female part of a coupling

3.3
thread gasket
flat faced gasket for threads according to EN ISO 228-1

3.4
protection ring
ring which protects the valve from hitting the ground or dragging on the ground

ITIH STANDARD PREVIEW
(standards.iteh.ai)
SIST EN 14420-6:2013
<https://standards.iteh.ai/catalog/standards/sist/6d9fe42b-a5cb-4c66-8228-6c8b6f54df21/sist-en-14420-6-2013>

4 Fitting combinations

Hose fittings with TW coupling: Female coupling (Type MKS) and male coupling (Type VKS).

Usual fitting combination for the filling of the storage tank: Female coupling (Type MK) and male coupling (Type VK).

Usual fitting combination for closing off the outlet end of the TW: Female coupling (Type MK) and male dust coupling (Type VB).

Usual fitting combination for closing off the filling nozzle or the storage tank: Female dust coupling (Type MB) and male coupling (Type VK).

5 Dimensions, designations**5.1 Hose fittings with TW couplings****5.1.1 General**

A hose fitting with TW coupling for female coupling (type MKS) is shown in Figure 1.

A hose fitting with TW coupling for male coupling (type VKS) is shown in Figure 2.

A parts list for Figure 1 and Figure 2 is given in Table 1.

Dimensions in millimetres

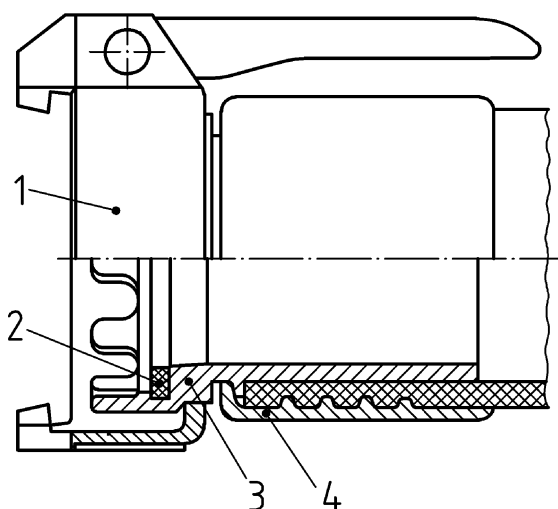


Figure 1 — Hose fitting with TW coupling for female coupling (type MKS)

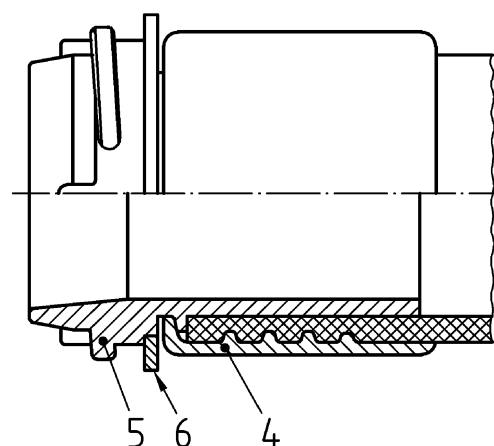


Figure 2 — Hose fitting with TW coupling for male coupling (type VKS)

Table 1 — Parts list

Item No.	Designation	Requirements
1	Tension ring with levers	according to 5.3.4.2 and 5.3.4.3
2	Main gasket	according to 5.3.4.4
3	Hose tail type MKST	according to 5.1.2
4	Clamp unit	according to EN 14420-3
5	Hose tail type VKST	according to 5.1.3
6	Protecting ring	according to 5.1.4

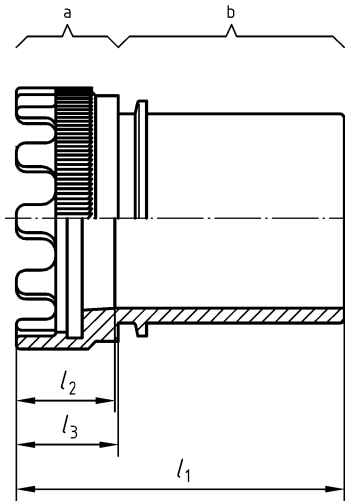
Designation of a complete hose fitting shall be according to EN 14420-1.

5.1.2 Hose tail with female TW coupling

Dimensions for a hose tail with female TW coupling (type MKST) are shown in Figure 3; values are given in Table 2.

EN 14420-6:2013 (E)

Type MKST



Key

- ^a Coupling side part of the tail; other dimensions and specifications according to 5.3.
^b Hose side part of the tail; dimensions according to EN 14420-2.

Figure 3 — Hose tail type MKST

Table 2 — Hose tail type MKST
 (standards.iteh.ai)

Dimensions in millimetres

Connection female TW coupling	Nominal size		For hose internal diameter	l_1 min.	l_2 max.	l_3 +1 0
	DN	Hose connection				
50	40	38	68	24	26	
	50	50	75	—		
80	65	63	98	27	35	
	80	75	102	35		
100	100	100	125	27	35,5	

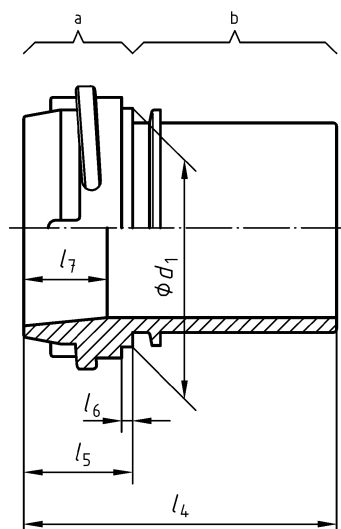
Example for an ordering designation of a complete hose tail with female TW coupling (type MKST) with nominal size DN 50 on coupling connection side and nominal size DN 40 on hose connecting side, made of copper-zinc alloy (CW614N):

Hose tail EN 14420-6 — MKST — 50 — 40 — CW614N

5.1.3 Hose tail with male TW coupling

Dimensions for a hose tail with male TW coupling (type VKST) are shown in Figure 4; values are given in Table 3.

Type VKST



Key

- a Coupling side part of the tail; other dimensions and specifications according to 5.2.
 b Hose side part of the tail; dimensions shall be according to EN 14420-2.

Figure 4 — Hose tail type VKST

iTeh STANDARD PREVIEW
 (standards.iteh.ai)

Table 3 — Hose tail type VKST

Dimensions in millimetres

Nominal size DN	Connection male TW coupling	Hose connection	For hose internal diameter	Tolerances		l_5	l_6	l_7
				min.	max.			
50	40	38	45	0 -0,3	80	37,5	2,5	32
	50	50	58		87		3	30
80	65	63	75	+0,8 -0,3	110,5	48	4	40
	80	75	90		115			
100	100	100	113	+1 -0,3	134,5	44,5	4	35

Example for an ordering designation of a complete hose tail with male TW coupling (type VKST) with nominal size DN 80 on coupling connection side and nominal size DN 80 on hose connection side, made of stainless steel (1.4571):

Hose tail EN 14420-6 — VKST — 80 — 80 — 1.4571

5.1.4 Protecting ring

The protecting ring is intended to prevent the external surface of the male couplings from damage, which may be result of hose pipeline handling, e.g. by falling down to earth.

The protecting ring does not have to conform to Figure 5; only fixed dimensions in Table 4 shall be used.

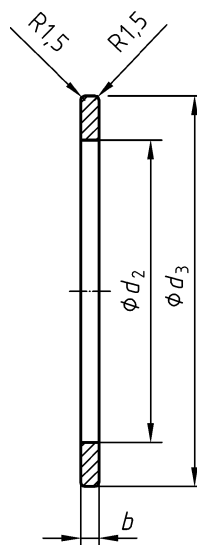


Figure 5 — Protecting ring

Table 4 — Protecting rings

Dimensions in millimetres

Connection male TW coupling	Nominal size		d_2	d_3
	DN	Hose connection		
			$\pm 0,3$	$\pm 0,5$
			$+ 0,5$ 0	
50	40	4,5	45,5	90
	50	4,5	58,5	
80	65	6	75,5	122
	80		91	
100	100	7	114,5	153

Example for an ordering designation of a protecting ring for a hose tail with nominal size DN 50 of the male coupling connection side and nominal size DN 40 on the hose connection side, made of polyamide (PA):

Protecting ring EN 14420-6 — 50 — 40 — PA

5.2 Male coupling (type VK)

5.2.1 General

A male coupling (type VK) is shown in Figure 6. A parts list for Figure 6 is given in Table 5.

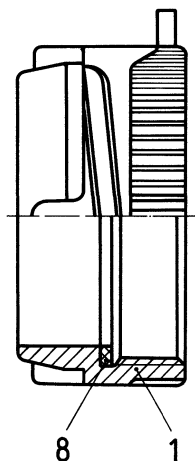


Figure 6 — Male coupling (type VK)

Table 5 — Parts list

Pos. No.	Number of pieces	Designation
1	1	Body
8	1	Thread gasket ^a
^a Dimensions according to EN 14420-5.		

Example for an ordering designation of a complete male coupling (type VK) with nominal size DN 80 and maximum working pressure 16 bar, made of copper-zinc alloy (CW614N):

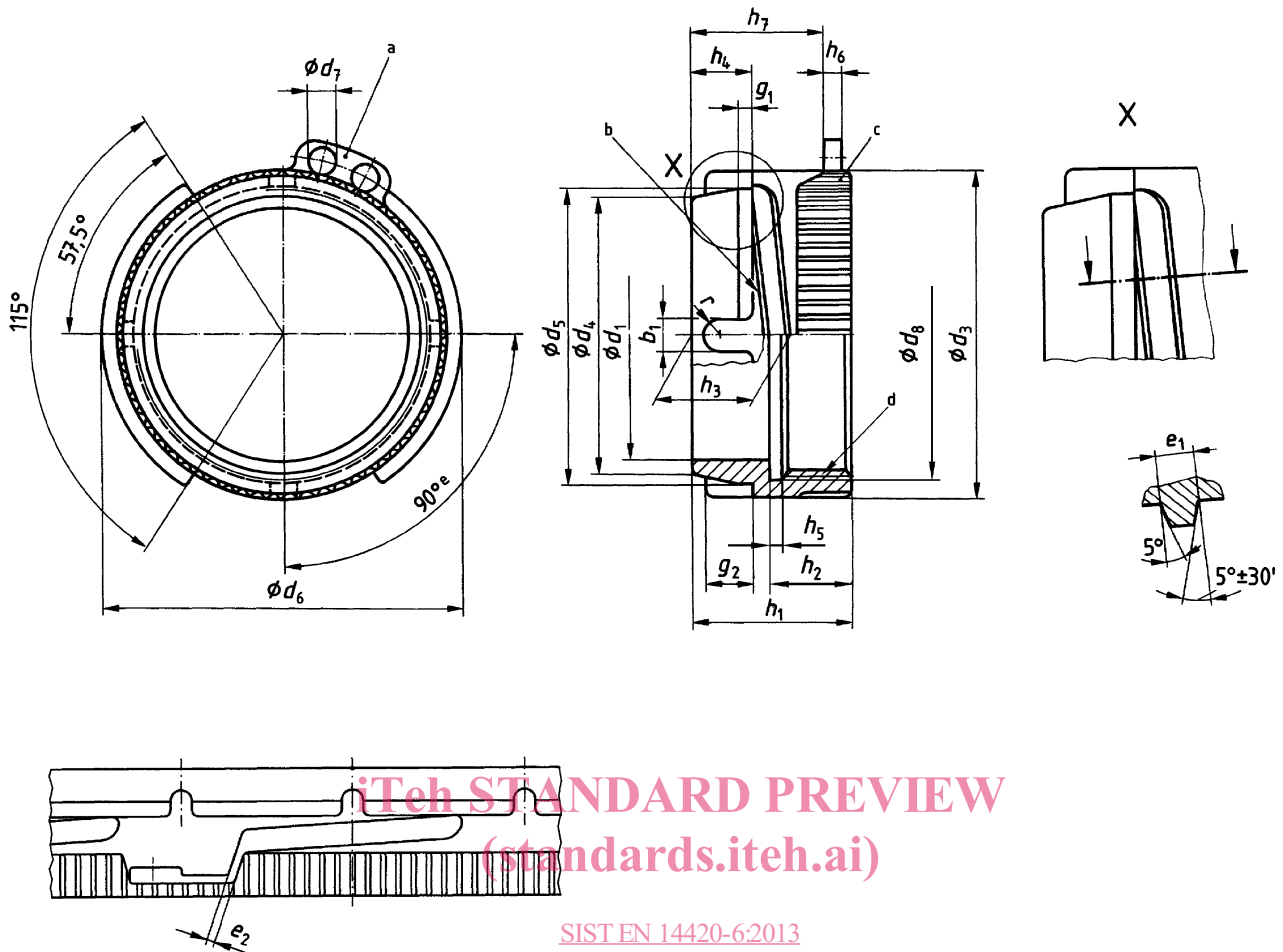
Coupling EN 14420-6 — VK — 80 — 16 — CW614N

For connection with hoses, hose tails according to EN 14420-5 can be screwed into the male coupling (type VK) or one-piece hose fittings in accordance with 5.1 can be used.

5.2.2 Components

5.2.2.1 Body DN 50 and DN 80 (item No. 1)

Dimensions for bodies with nominal size DN 50 and DN 80 are shown in Figure 7; values are given in Table 6.



STANDARD PREVIEW
(standards.itech.ai)

SIST EN 14420-6:2013

<https://standards.itech.ai/catalog/standards/sist/6d9fe42b-a5cb-4c66-8228-6c8b6f54df21/sist-en-14420-6-2013>

Key

- a The spatial arrangement do not have to correspond to the drawing.
- b Marking
- c Straight knurled portion
- d Thread according to EN 14420-5
- e The angle between cams (90°) shall be checked with a gauge according to Annex A.

Figure 7 — Body DN 50 and DN 80

Table 6 — Dimensions for body DN 50 and DN 80

Dimensions in millimetres

Nominal size	b_1	d_1	d_3	d_4	d_5	d_6	d_7	d_8	e_1	e_2	
DN	$\pm 0,2$		$\pm 0,5$	Tolerances	$\pm 0,4$	$\pm 0,5$		$\pm 0,2$	$\pm 0,6$	$+0,5$ 0	
50	6,5	48	67	55,5	$+0,4$ 0	60	77	8	60,5	7	2,5
80	8,5	76	100	84,5	$\pm 0,5$	90	110	9	88,5	8	3,5

Nominal size	g_1	g_2	h_1	h_2	h_3	h_4	h_5	h_6	h_7	r	Gradient of the curve element
DN		$+0,5$ 0	± 1	0 $-0,5$	$\pm 0,2$	$\pm 0,5$		± 1	min.		
50	4,5	8	39	20	23,5	14,5	3	5	30	3,25	13
80	5	13	48	24	30,5	20	4	5	41	4,25	14

For DN 50 and DN 80, h_3 should be checked with a gauge according to Annex A.

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN 14420-6:2013

<https://standards.iteh.ai/catalog/standards/sist/6d9fe42b-a5cb-4c66-8228-6c8b6f54df21/sist-en-14420-6-2013>