

NATIONAL TECHNICAL ASSESSMENT

ITB-KOT-2023/2345 rev. 1

This National Technical Assessment has been issued in accordance with the Regulation of the Minister of Infrastructure and Construction of 17 November 2016 on National Technical Assessments (Journal of Laws of 2016, Item 1968) by the Building Research Institute in Warsaw, at the request of:

SIKLA GmbH
In der Lache 17, 78056 VS Schwenningen, Germany
SIKLA Polska Sp. z o.o.
ul. Spółdzielcza 55, 58-500 Jelenia Góra

National Technical Assessment ITB-KOT-2023/2345 rev. 1 is a positive assessment of the performance of the following construction products for their intended use:

Pipe clamps Stabil D-3G
for pipes and ducts used for fire suppression and
extinguishing installations – fixed water firefighting and
automatic sprinklers equipment

Date of validity of the National Technical Assessment:

28th of August 2028 r.

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1. Technical description of the product

The subject of this National Technical Assessment are pipe clamps Stabil D-3G for pipes and ducts used for fire suppression and extinguishing installations – fixed water firefighting and automatic sprinklers equipment.

The products covered by the National Technical Assessment are manufactured by SIKLA GmbH, In der Lache 17, 78056 VS Schwenningen, Germany, at its production plant in Germany. The authorised representative of the manufacturer in Poland is SIKLA Polska Sp. z o.o., ul. Spółdzielcza55, 58-500 Jelenia Góra.

The National Technical Assessment shall cover the product types specified by the manufacturer and derived from the performance characteristics given in section 3 and the combination of materials and components.

Pipe clamps Stabil D-3G with inner diameter from 15 mm to 129 mm, according fig. A1 and A2, consist of moving half-clamp (lower) and fixed half-clamp (upper) with welded thread nut. Moving and fixed half-clamps are assembled on both sides by two bolts M6x22 or M8x30. On one side of clamp the clamping bolt is pre-assembled, the clamping bolt on the opposite side is mounted into the bore hole and retained by a plastic washer. On both sides of upper half-clamp nuts are welded

Pipe clamps Stabil D-3G with inner diameter from 133 mm to 316 mm, according fig. A3, consist of moving half-clamp (lower) and fixed half-clamp (upper) with welded thread nut. Moving and fixed half-clamps are assembled on both sides by two bolts M10x40 or M12x45. For sizes 133 mm and larger the clamping bolts and the required nuts are supplied in loose form.

Both half-clamps are made of zinc coated steel bar grade DC01 according standard PN-EN 10025-2:2007 with coating thickness not less than 18 µm. Thread nut is made of zinc coated steel grade 11SMnPb30 according standard DIN 1651:1998, with zinc coating thickness not less than 18 µm.

Clamping bolts are made of carbon steel mechanical class 4.6 according standard PN-EN ISO 898-1:2013 for clamps within inner diameter 15 ÷ 72 mm or mechanical class 8.8 according standard PN-EN ISO 898-1:2013 for clamps within inner diameter 76 ÷ 316 mm. Clamping bolts zinc coating thickness is not less than 5 µm

Clamping nuts are made of carbon steel with mechanical class and correspond to dedicated bolts according standard PN-EN ISO 898-2:2013 with zinc coating thickness not less than 5 µm.

The shape and dimensions of pipe clamps Stabil D-3G are shown in Annex A. Deviations of thread dimensions correspond to standard PN-ISO 965-2:2001, and deviations of steel bars thickness correspond to standard PN-EN 10131:2008

The deviations of the remaining dimensions of the pipe clamps Stabil D-3G correspond to the tolerance class *m* according to standard PN-EN 22768-1:1999

2. Intended use of the product

Pipe clamps Stabil D-3G are designated for fixing (suspension) of pipes and ducts used for fire suppression and extinguishing installations – fixed water firefighting and automatic sprinklers equipment in range resulting from functional performance specified in Section 3.

Pipe clamps Stabil D-3G can be used for fixing (suspension) of pipes and ducts for fire suppression and extinguishing installations within nominal diameter DN 15 ÷ DN 316 installed according to standard PN-EN 12845+A1:2020, VdS Schadenverhütung guidance or other standards defined for design and assembling of fixed water firefighting and automatic sprinklers equipment.

For corrosion protection reasons, pipe clamps Stabil D-3G shall be used in corrosion conditions cat. C3 M, according to standard PN-EN ISO 14713-1:2017 and PN-EN ISO 9223:2012.

The products covered by this National Technical Assessment shall be used in accordance with a technical design developed taking into account:

- Polish standards and technical and construction regulations, in particular the Regulation of the Minister of Infrastructure of 12 April 2002 on technical conditions to be met by buildings and their location (Journal of Laws of 2022, Item 1225),
- the provisions of this National Technical Assessment of Building Research Institute,
- the recommendations contained in the technical manual drawn up by the manufacturer and supplied to the recipients.

3. The performance of the product and the methods used for its assessment

3.1 Product performance characteristic

3.1.1. Characteristic and design load capacity. Characteristic and design load capacity of Stabil D-3G are shown in Table 1. Design load capacity determined based on characteristic load capacity are given including safety factor 2,0

Table 1

No.	Designation	Characteristic capacity load, kN	Designed capacity load, kN
1	Stabil D-3G 15 ÷ 72	4,0	2,0
2	Stabil D-3G 76 ÷ 129	10,0	5,0
3	Stabil D-3G 133 ÷ 173	16,0	8,0
4	Stabil D-3G 176 ÷ 316	25,0	12,5

3.1.2. Durability. Zinc coating thickness not less than 18 µm, ensures durability of pipe clamps Stabil D-3G to the extent specified in Section 2.

3.2. Methods used to assess the performance

3.2.1. Characteristic and design load capacity. Load capacity tests are carried out in conditions corresponding to the service conditions applying the loads specified by the manufacturer

Load capacity test is performed by tensile strength according fig. 1, using criteria of the ultimate limit state (destructive force). Characteristic values are determined using the statistical method, assuming. Design load capacity is given including safety factor $\gamma = 2,0$.

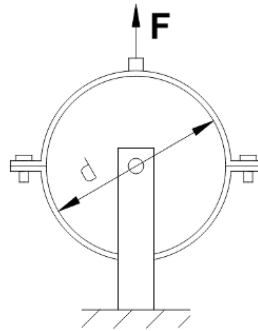


Fig. 1. Tensile strength direction testing scheme

3.2.2. Durability. The zinc coating thickness test is performed according to PN-EN ISO 2808:2020, PN-EN ISO 2178:2016 or PN-EN ISO 3497:2004.

4. Packing, transportation and storage, labelling of products

The products covered by this National Technical Assessment should be delivered in the manufacturer's original packaging and stored and transported in accordance with the manufacturer's instructions.

The method of marking products with the construction mark should be in accordance with the Regulation of the Minister of Infrastructure and Construction of 17 November 2016 on the method of declaring the performance of construction products and the method of marking them with the construction mark (Journal of Laws of 2023, Item 873).

The marking of the product with the construction mark shall be accompanied by following information:

- the last two digits of the year in which the construction mark was first affixed to the construction product,
- the name and registered address of the manufacturer or an identification mark enabling the name and registered address of the manufacturer to be unequivocally identified,
- name and designation of the construction product type,
- number and year of issue of the national technical assessment according to which the performance was declared (ITB-KOT-2023/2345 rev. 1),
- number of the national declaration of performance,
- the level or class of performance declared,
- name of the certification body that participated in the assessment and verification of the constancy of performance of the construction product
- the address of the manufacturer's website if the national declaration of performance is made available on it.

A safety data sheet and/or information on hazardous substances contained in a construction product, as referred to in Article 31 or 33 of Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) and establishing a European Chemicals Agency, should be supplied or, where appropriate, made available together with the national declaration of performance.

Furthermore, the labelling of a construction product which is a hazardous mixture under the REACH Regulation should be in accordance with the requirements of Regulation (EC) No 1272/2008 of the European Parliament and of the Council on classification, labelling and packaging of substances and mixtures (CLP), amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

5. Assessment and verification of constancy of performance

5.1. National system of assessment and verification of constancy of performance

According to the Regulation of the Minister of Infrastructure and Construction of 17 November 2016 on the method of declaring the performance of construction products and the method of marking them with the construction mark (Journal of Laws of 2023, Item 873) system 1 of assessment and verification of constancy of performance shall be applied.

5.2. Type testing

The performance characteristics assessed in point 3 shall be type-tested for products as long as there is no change in raw materials, components, production line or plant.

5.3. Factory production control

The manufacturer shall have a factory production control system in place at the manufacturing site. All the elements, requirements and provisions adopted by the manufacturer shall be documented in a systematic manner in the form of policies and procedures, including records of testing. The factory production control shall be adapted to the production technology and shall ensure that the declared performance of the product is maintained in series production.

The factory production control shall include the specification and testing of raw materials and components, in-process inspection and testing (according to Section 5.4) carried out by the manufacturer in accordance with an established test plan and according to the rules and procedures laid down in the factory production control documentation.

The results of production control should be systematically recorded. The records of the register should confirm that the products meet the criteria for assessment and verification of constancy of performance. Individual products or batches of products and related production details must be fully identifiable and reproducible.

5.4. Follow-up tests

5.4.1. Testing plan. The testing plan includes:

- a) ongoing testing,
- b) periodic testing.

5.4.2. Ongoing testing. Ongoing testing includes inspection of:

- shape and dimensions,
- zinc coating thickness for parts made of zinc coated steel.

5.4.3. Periodic testing. Periodic testing includes verification of lead capacity.

5.5. Frequency of testing

Ongoing tests should be carried out in accordance with an established test plan, but not less frequently than for each batch of products. The batch size shall be specified in the factory production control documentation. Periodic tests should be carried out at least once every 3 years.

6. Comments

6.1. The National Technical Assessment ITB-KOT-2023/2345 rev.1 is a positive assessment of the performance of pipe clamps Stabil D-3G, in accordance with the intended use resulting from the provisions of the Assessment, affect the fulfilment of the basic requirements by the construction works in which the products will be used.

6.2. The National Technical Assessment ITB-KOT-2023/2345 rev.1 is not a document authorising the marking of a construction product with a construction mark.

In accordance with the Act on construction products of 16 April 2004 (Journal of Laws of 2021, Item 1213) the products covered by this National Technical Assessment may be placed on the market or made available on the domestic market if the manufacturer has assessed and verified the constancy of performance, drawn up a national declaration of performance in accordance with National Technical Assessment ITB-KOT-2023/2345 rev. 1 and labelled the products with the construction mark, in accordance with applicable regulations.

6.3. The National Technical Assessment ITB-KOT-2023/2345 rev.1 does not infringe the rights arising from provisions on industrial property protection, in particular the Act of 30 June 2000 - Industrial Property Law (Journal of Laws of 2021, Item 324, as amended). It is the responsibility of the users of this National Technical Assessment to ensure these rights.

6.4. By issuing a National Technical Assessment, the Building Research Institute is not responsible for any possible infringement of exclusive and acquired rights.

6.5. The National Technical Assessment does not relieve the product manufacturer of its responsibility for the correct quality of the products and building contractors of their responsibility for their correct application.

6.6. The validity of the National Technical Assessment may be renewed for further periods not exceeding 5 years.

7. List of documents used in the proceedings

7.1. Reports, test reports, assessment and classifications

- 1) NZK.411.556.2022 06586.11.ZF. Opinion to Test report 00654/23/Z00NZK. Building Structures, Geotechnics and Concrete Department of ITB. Warsaw 2023.
- 2) 00654/23/Z00NZK. Research work. Building Structures, Geotechnics and Concrete Department of ITB. Warsaw 2023.
- 3) LZK00-01612/22/Z00NZK. Test report. Building Structures, Geotechnics and Concrete Department of ITB. Warsaw 2022.
- 4) 00702/22/Z00NZM. Classification. Department of Building Materials Engineering of ITB.
- 5) LZM00-00702/22/Z00NZM. Test report. Department of Building Materials Engineering of ITB. Warsaw 2022.

7.2. Standards and related document

PN-EN 10130:2009	<i>Cold rolled low carbon steel flat products for cold forming. Technical delivery conditions</i>
PN-EN ISO 898-2:2012	<i>Mechanical properties of fasteners made of carbon steel and alloy steel. Part 2: Nuts with specified property classes. Coarse thread and fine pitch thread</i>
PN-EN 10131:2008	<i>Cold rolled uncoated and zinc or zinc-nickel electrolytically coated low carbon and high yield strength steel flat products for cold forming. Tolerance on dimensions and shape</i>
PN-EN 22768-1:1999	<i>General Tolerances. Tolerances for linear and angular dimensions without individual tolerance indications</i>
PN-ISO 965-2:2001	<i>ISO general purpose metric screw threads. Tolerances. Part 2: Limits of sizes for general purpose external and internal screw threads. Medium quality</i>
PN-EN 12845+A1:2020	<i>Fixed firefighting systems. Automatic sprinkler systems. Design, installation and maintenance</i>
PN-EN ISO 14713-1:2017	<i>Zinc coatings. Guidelines and recommendations for the protection against corrosion of iron and steel in structures. Parts 1: General principles of design and corrosion resistance</i>
PN-EN ISO 9223:2012	<i>Corrosion of metals and alloys. Corrosivity of atmospheres. Classification, determination and estimation</i>
PN-EN ISO 2808:2020	<i>Paints and varnishes. Determination of film thickness</i>
PN-EN ISO 2178:2016	<i>Non-magnetic coating on magnetic substrates. Measurement of coating thickness. Magnetic method</i>
PN-EN ISO 3497:2004	<i>Metallic coatings. Measurement of coating thickness. X-ray spectrometric methods</i>
DIN 1651:1998	<i>Free-cutting steels</i>

Annex A.

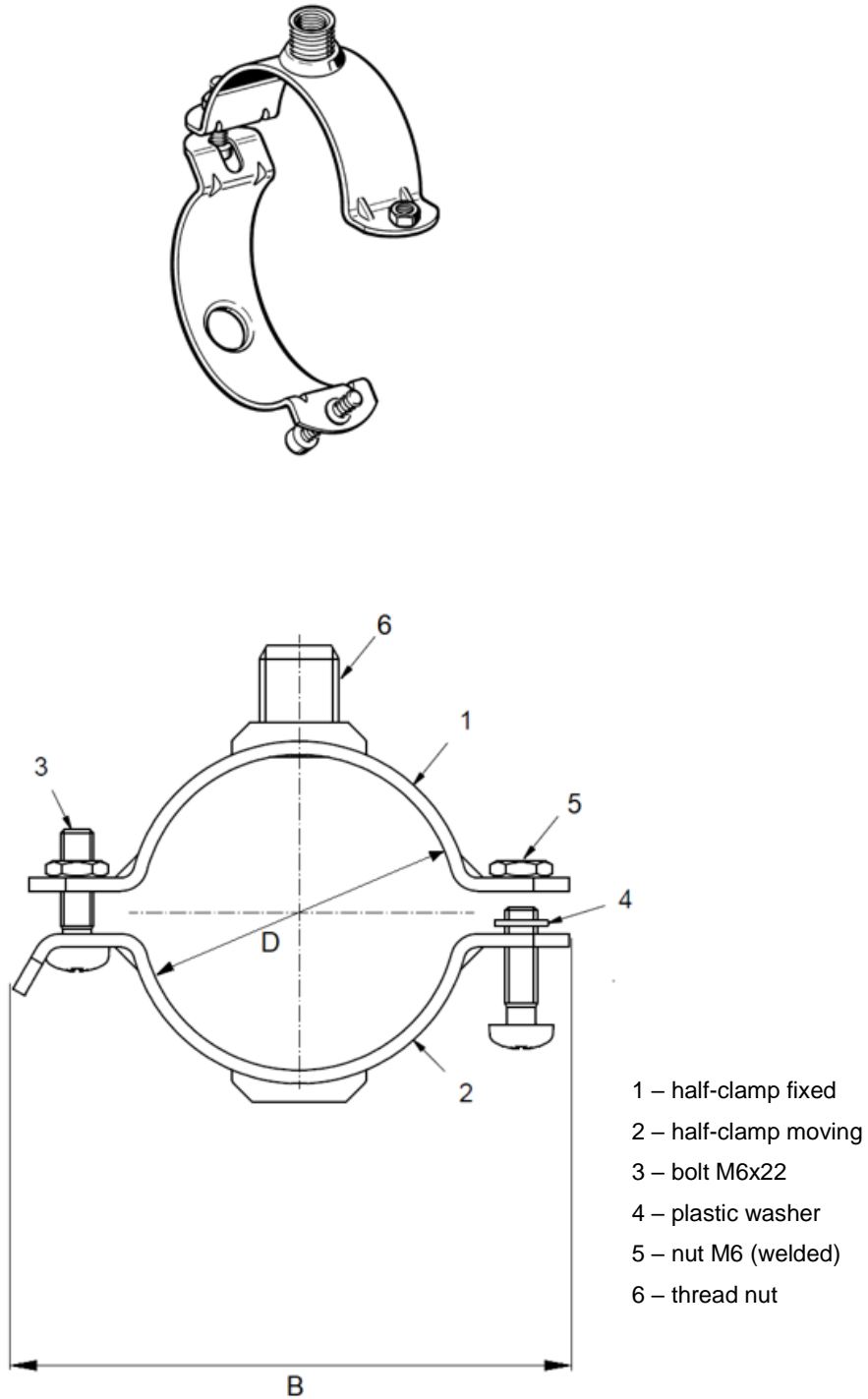


Fig. A1. Pipe clamps Stabil D-3G, $D = 15 \div 72$ mm

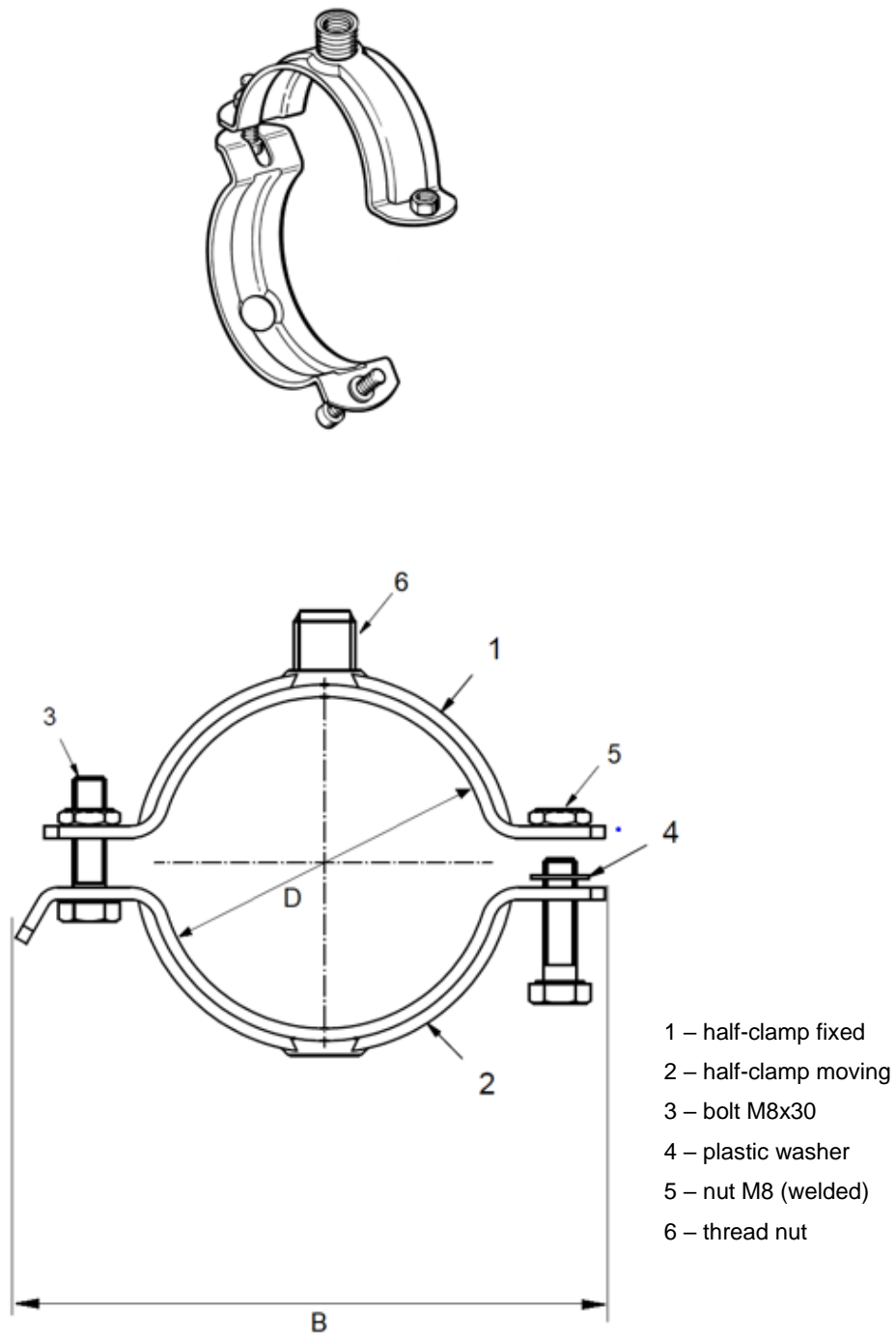


Fig. A2. Pipe clamps Stabil D-3G, $D = 76 \div 129$ mm

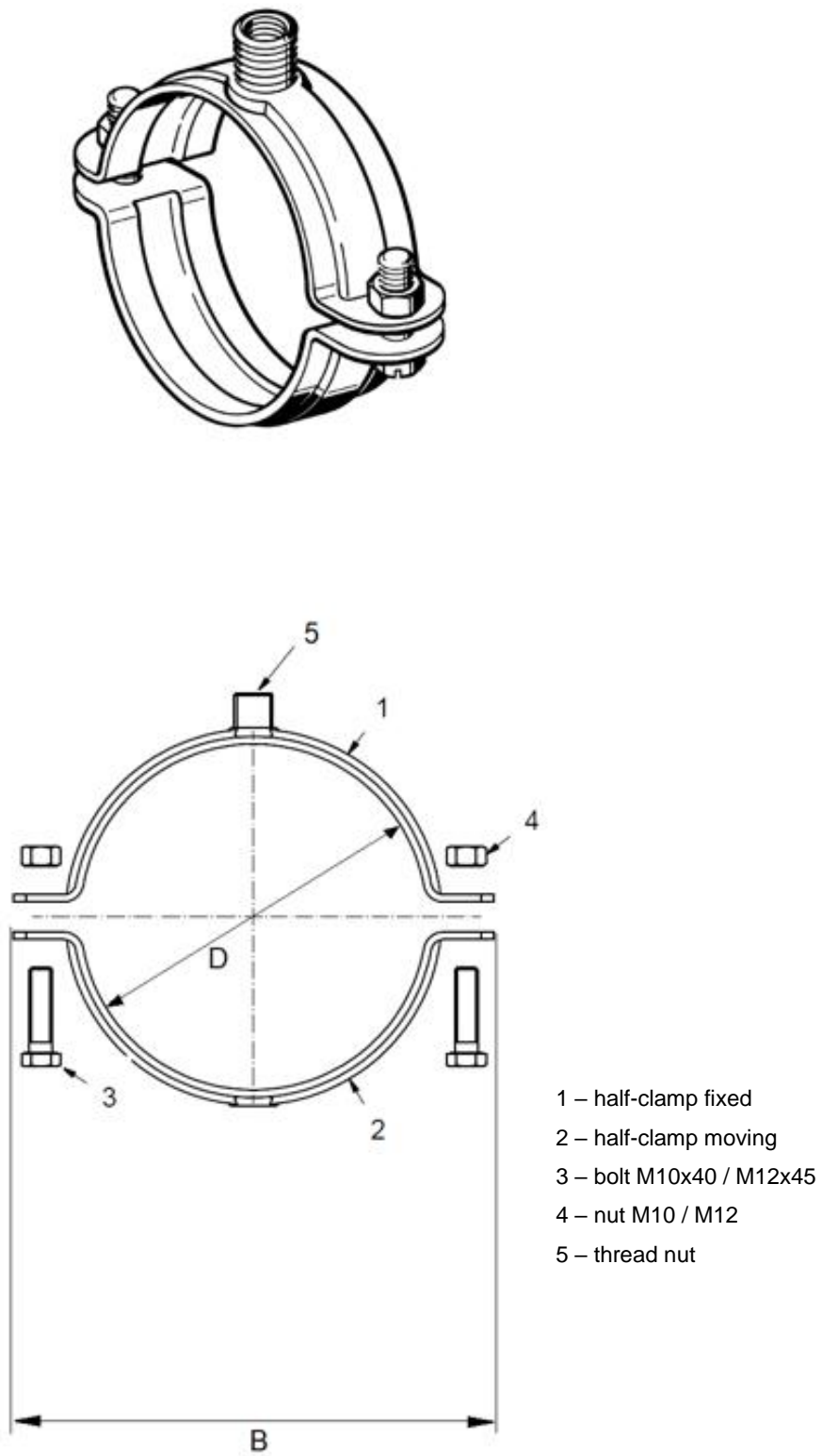


Fig. A3. Pipe clamp Stabil D-3G, $D = 133 \div 316$ mm

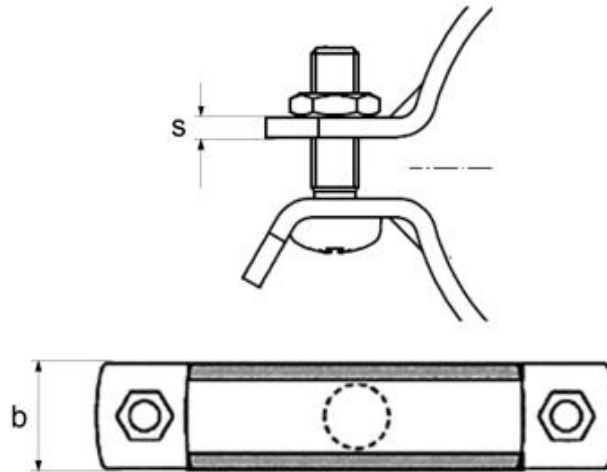


Table A1. Pipe clamps Stabil D-3G Assortment and dimensions

Designation	Span (inner diameter), D		B, mm	Thread nut	Pipe clamp steel bar dimensions, mm		Bolts	Nuts
	inch	mm			b	s		
Stabil D-3G 15 ÷ 19	3/8"	15 ÷ 19	57	M16 / M10 / M8	25	2,0	M6x22	M6
Stabil D-3G 20 ÷ 24	1/2"	20 ÷ 24	63	M16 / M10 / M8	25	2,0	M6x22	M6
Stabil D-3G 25 ÷ 30	3/4"	25 ÷ 30	69	M16 / M10 / M8	25	2,0	M6x22	M6
Stabil D-3G 31 ÷ 35	1"	31 ÷ 35	74	M16 / M10 / M8	30	2,5	M6x22	M6
Stabil D-3G 40 ÷ 45	1 1/4"	40 ÷ 45	85	M16 / M10 / M8	30	2,5	M6x22	M6
Stabil D-3G 48 ÷ 53	1 1/2"	48 ÷ 53	94	M16 / M10 / M8	30	2,5	M6x22	M6
Stabil D-3G 54 ÷ 59	-	54 ÷ 59	101	M16 / M10 / M8	30	2,5	M6x22	M6
Stabil D-3G 60 ÷ 65	2"	60 ÷ 65	108	M16 / M10 / M8	30	2,5	M6x22	M6
Stabil D-3G 67 ÷ 72	-	67 ÷ 72	114	M16 / M10 / M8	30	2,5	M6x22	M6
Stabil D-3G 76 ÷ 81 M	2 1/2"	76 ÷ 81 M	137	M16 / M10 / M8	30	3,0	M8x30	M8
Stabil D-3G 82 ÷ 87 M	-	82 ÷ 87 M	143	M16 / M10 / M8	30	3,0	M8x30	M8
Stabil D-3G 88 ÷ 93 M	3"	88 ÷ 93 M	149	M16 / M10 / M8	30	3,0	M8x30	M8
Stabil D-3G 102 ÷ 108 M	-	102 ÷ 108 M	163	M16 / M10 / M8	30	3,0	M8x30	M8
Stabil D-3G 110 ÷ 116 M	4"	110 ÷ 116 M	171	M16 / M10 / M8	30	3,0	M8x30	M8
Stabil D-3G 124 ÷ 129 M	-	124 ÷ 129 M	184	M16 / M10 / M8	30	3,0	M8x30	M8
Stabil D-3G 133 ÷ 140	-	133 ÷ 140	210	1/2" / M16 / M12	40	4,0	M10x40	M10
Stabil D-3G 140 ÷ 148	5"	140 ÷ 148	218	1/2" / M16 / M12	40	4,0	M10x40	M10
Stabil D-3G 149 ÷ 155	-	149 ÷ 155	225	1/2" / M16 / M12	40	4,0	M10x40	M10
Stabil D-3G 159 ÷ 165	-	159 ÷ 165	235	1/2" / M16 / M12	40	4,0	M10x40	M10
Stabil D-3G 167 ÷ 173	6"	167 ÷ 173	243	1/2" / M16 / M12	40	4,0	M10x40	M10
Stabil D-3G 176 ÷ 184	-	176 ÷ 184	255	1/2" / M16 / M12	40	4,0	M12x45	M12
Stabil D-3G 188 ÷ 194	-	188 ÷ 194	265	1/2" / M16 / M12	40	4,0	M12x45	M12
Stabil D-3G 199 ÷ 205	-	199 ÷ 205	276	1/2" / M16 / M12	40	4,0	M12x45	M12
Stabil D-3G 207 ÷ 216	-	207 ÷ 216	287	1/2" / M16 / M12	40	4,0	M12x45	M12
Stabil D-3G 219 ÷ 225	8"	219 ÷ 225	296	1/2" / M16 / M12	40	4,0	M12x45	M12
Stabil D-3G 244 ÷ 250	-	244 ÷ 250	321	1/2" / M16 / M12	40	4,0	M12x45	M12
Stabil D-3G 267 ÷ 273	10"	267 ÷ 273	344	1/2" / M16 / M12	40	4,0	M12x45	M12
Stabil D-3G 278 ÷ 284	-	278 ÷ 284	355	1/2" / M16 / M12	40	4,0	M12x45	M12
Stabil D-3G 297 ÷ 303	-	297 ÷ 303	374	1/2" / M16 / M12	40	4,0	M12x45	M12
Stabil D-3G 310 ÷ 316	-	310 ÷ 316	387	1/2" / M16 / M12	40	4,0	M12x45	M12

M – metric thread

