

DIN 6921

Hexagon Flange Bolt



Standard	DIN 6921		
Product Type	Hexagon Flange Bolt		
Material	Stainless Steel, Alloy Steel, Carbon Steel		
Property Class	A2-70, A4-80 (ISO 3506-1) · 10.9, 4.8, 8.8 (ISO 898-1)		
Surface Finish	Passivated, Plain, Zinc Plated, Dacromet, Blackened, Phosphate, Hot Dip Galvanized		
Size Range	M5 - M20	Length Range	6-300 mm
Thread	ISO metric coarse pitch		

BASIS OF SPECIFICATION

WHICH STANDARD GOVERNS WHAT

Dimensions to	DIN 6921:1983-06
Carbon steel / Alloy steel mechanical properties to	DIN ISO 898 Part 1
Stainless steel mechanical properties to	ISO 3506-1:2020
Product grade	A
Thread length	to be agreed
Minimum usable thread length	to be agreed

MECHANICAL PROPERTIES

REQUIRED VALUES PER ISO 3506-1

Class	Rm min.	Yield requirement	Elongation requirement	Hardness	Source
A2-70	700 MPa	Rp0.2 min. 450 MPa	0,4d mm	-	ISO 3506-1
A4-80	800 MPa	Rp0.2 min. 600 MPa	0,3d mm	-	ISO 3506-1

MECHANICAL PROPERTIES

REQUIRED VALUES PER ISO 898-1

Class	Rm min.	Yield requirement	Elongation requirement	Hardness	Source
10.9	1040 MPa	Rp0.2 min. 940 MPa	A min. 9 %	320 - 380 HV	ISO 898-1
4.8	420 MPa	Rpf min. 340 MPa (not a test value)	Af min. 0.24	130 - 220 HV	ISO 898-1
8.8	800 MPa	Rp0.2 min. 640 MPa	A min. 12 %	250 - 320 HV	ISO 898-1 (d ≤ M16)

DIMENSIONAL DATA - SIZES WE SUPPLY

ALL DIMENSIONS PER THE STANDARD

d Diameter - mm	P Thread Pitch - mm	s (max) Width Across Flats - mm	e (min) Width Across Corners - mm	dc Flange Diameter - mm	k Nominal Head Height - mm	b (l ≤ 125) Thread Length - mm	b (125 < l ≤ 200) Thread Length - mm	b (l > 200) Thread Length - mm
M5	0.8	8	8.71	11.8	5.4	16	-	-
M6	1	10	10.95	14.2	6.6	18	-	-
M8	1.25	13	14.26	18	8.1	22	28	-
M10	1.5	15	16.5	22.3	9.2	26	32	-
M12	1.75	16	17.62	26.6	11.5	30	36	-
M16	2	21	23.15	35	14.4	38	44	57

FURTHER SIZES IN THIS STANDARD

ALL DIMENSIONS PER THE STANDARD

Not held in stock. Available to order; minimum order quantity applies.

d Diameter - mm	P Thread Pitch - mm	s (max) Width Across Flats - mm	e (min) Width Across Corners - mm	dc Flange Diameter - mm	k Nominal Head Height - mm	b (l ≤ 125) Thread Length - mm	b (125 < l ≤ 200) Thread Length - mm	b (l > 200) Thread Length - mm
M14	2	18	19.86	30.5	12.8	34	40	-
M20	2.5	27	29.87	43	17.1	46	52	65

MARKING
Steel — Required

What	Manufacturer identification mark and the property class symbol (Table 19), for example 8.8
Where	Preferably on the top of the head, embossed or indented; alternatively indented on the side of the head. On flanged products, on the flange
Sizes	d ≥ 5 mm
Clause	ISO 898-1:2013, 10.3.3.1 Hexagon and hexalobular head bolts and screws

Stainless steel — Required

What	Stainless steel grade, the optional letter L, a hyphen and the property class symbol (Table 13, or Table 14 with a leading zero for reduced loadability), together with the manufacturer identification mark, for example A2-70
Where	Preferably on the top of the head, indented or embossed, or on the side of the head, indented. On bolts and screws with flange, on the flange when the manufacturing process does not allow marking on the top of the head
Sizes	d ≥ 5 mm
Clause	ISO 3506-1:2020, 10.3.1 Hexagon head bolts and screws

"All hexagon head bolts and screws of nominal thread diameter d ≥ 5 mm shall be marked for all stainless steel grades and all property classes, with the stainless steel grade in accordance with Clause 6, with the property class symbol in accordance with Table 13 (fasteners with full loadability) or Table 14 (fasteners with reduced loadability that can be tensile tested with b ≥ 3d in accordance with 9.1), and with the manufacturer's identification mark in accordance with 10.2."

Clause 4 of DIN 6921:1983-06 sets no marking symbol of its own. Steel classes 8.8, 10.9 and 12.9 follow DIN ISO 898 Part 1 and stainless A2-70 follows DIN 267 Part 11; footnote 1 states other property classes or materials are subject to agreement.

Clause 5 designation: Hexagon head bolt DIN 6921 - M 10 x 60 - 10.9. Where the grooved design is required the letter symbol Ho is inserted: Hexagon bolt DIN 6921 - M 10 x 60 - Ho - 10.9.

Types and designs requiring additional ordering details follow DIN 962.

Footnote 2 records a deviation from DIN ISO 4759 Part 1, May 1980 edition, subclause 11.3: the parallelism of the flats may lie within tolerance field h13 for the width across flats.

Confirm the ordered property class before production.

INSPECTION DOCUMENTS WE CAN ISSUE

EN 10204 3.1 material certificate	Can be included when agreed in the order.
Dimensional inspection report	Can be provided for the agreed inspection scope.
Certificate of conformity	Can be issued against the confirmed order requirements.
Mechanical test report	Available when the required tests are agreed before production.
Chemical analysis report	Available when the material verification scope is agreed.
Coating inspection report	Can record the coating checks agreed for the order.

REFERENCES & NOTES

Note: DIN 6921 is a withdrawn legacy standard; the current standard for this product is ISO 4162. This sheet is built to DIN 6921. Dimensions can differ between the two
 - check the recorded correspondence on our website before substituting one for the other.

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