

Table: ISO\_CFG\_BS\_HBOLT4014

Grid_Item_Number	Grid_Item_Name	Grid_Item_Type	Controller	Dimension	NoUnitConversion	AltDataSource	ValueList	RelationField	OnFeatures	OffFeatures	OrderBy	ParameterID
1	1 Size	STRING_COMBO	1		Filter	Filter	{[Size]}		Filter	Filter		501
2	10 Length	NUMERIC_COMBO	0	Length@BodySke	0	+DATA_BS_HBOLT4014_LENGTHS	{[Length]}	[Size=Controller@Size]				CDBL(Length) 24
3	30	Hidden	0	Minor_dia@BodySke	0	+DATA_THRD	{[THD_MINOR]}	[Size=Controller@Size][TPU=Controller@Pitch]				
4	70	Hidden	0	Head_ht@BaseHead	0		{[Head_ht]}					23
5	100	Hidden	0	Head_ch_ang@Sketch3	1		30					
6	80	Hidden	0	Body_ch_ang@BodySke	1		45					
7	110	Hidden	0	Fillet_radius@HeadFillet	0		{[HEAD_FILLET_RADIUS]}					
8	999 Configuration Name	Edit	0		0		{ISO 4014 - [SIZE] x <Grid10> x <Grid20> - ...}					
9	998 Comment	Edit	0		0							
10	50	Hidden	0	Width_flats@Sketch1	0		{[WIDTH_FLATS]}					22
11	90	Hidden	0	Diameter@BodySke	0		{[DIAMETER]}					21,602
12	40 Thread Display	STRING_COMBO	0	SUPPRESSION	0	+DATA_THRD_Types	{[Description]}	[Thread_Types=SimCosSch]	[OnFeatures]	[OffFeatures]		DroplistOrder
13	60	Hidden	0	Advance@BodySke	0	+DATA_THRD	{[ADVANCE]}	[Size=Controller@Size][TPU=Controller@Pitch]				
14	800	Hidden	0		0	+DATA_THRD_Types	{[DescriptionPrefix]}	[Thread_Types=SimCosSch]...				
15	120	Hidden	0	Bearing_ht@Sketch4	0		{[BEARING_HT]}					
16	20 Thread Length	NUMERIC_COMBO	0	Thread_nom@BodySke	0	+DATA_BS_HBOLT4014_LENGTHS	{[THREAD_LENGTH]}	[Size=Controller@Size][Length = <Grid10>]				CDBL(Length)
17	1000 Base_name	Hidden	0		0		{Hexagon head bolt ISO 4014}					
18	1001 Designation	Hidden	0		0		{<Grid1000> - [SIZE] x <Grid10>}					

Table: ISO\_DATA\_BS\_HBOLT4014

SIZE	PITCH	DIAMETER	WIDTH_FLATS	HEAD_HT	BEARING_HT	HEAD_FILLET_RADIUS	enabled	key
Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter
1 M1.6	0.35	1.6	3.2	1.1	0.25	0.1	1	1
2 M2	0.4	2	4	1.4	0.25	0.1	1	2
3 M2.5	0.45	2.5	5	1.7	0.25	0.1	1	3
4 M3	0.5	3	5.5	2	0.4	0.1	1	4
5 M4	0.7	4	7	2.8	0.4	0.2	1	5
6 M5	0.8	5	8	3.5	0.5	0.2	1	6
7 M6	1.0	6	10	4	0.5	0.25	1	7
8 M8	1.25	8	13	5.3	0.6	0.4	1	8
9 M10	1.5	10	16	6.4	0.6	0.4	1	9
10 M12	1.75	12	18	7.5	0.6	0.6	1	10
11 M16	2.0	16	24	10	0.8	0.6	1	11
12 M20	2.5	20	30	12.5	0.8	0.8	1	12
13 M24	3.0	24	36	15	0.8	0.8	1	13
14 M30	3.5	30	46	18.7	0.8	1	1	14
15 M36	4.0	36	55	22.5	0.8	1	1	15
16 M42	4.5	42	65	26	1	1.2	1	16
17 M48	5.0	48	75	30	1	1.6	1	17
18 M56	5.5	56	85	35	1	2	1	18
19 M64	6.0	64	95	40	1	2	1	19

Table: ISO\_DATA\_BS\_HBOLT4014\_LENGTHS

SIZE	LENGTH	THREAD_LENGTH	enabled	key
Filter	Filter	Filter	Filter	Filter
1 M6	30	30	1	1
2 M6	30	18		2
3 M6	35	35	1	3
4 M6	35	18	1	4
5 M6	40	40	1	5
6 M6	40	18	1	6
7 M6	45	45	1	7
8 M6	45	18	1	8
9 M24	220	220	1	9
10 M24	220	73	1	10
11 M24	240	240	1	11
12 M24	240	73	1	12
13 M30	220	220	1	13
14 M30	220	85	1	14
15 M30	240	240	1	15
16 M30	240	85	1	16
17 M30	260	260	1	17
18 M30	260	85	1	18
19 M30	280	280	1	19

Design Library

ISO

Bearings

Bolts and Screws

Cross-recessed Head Screws

Hex Bolts - Structural

Hex Bolts and Screws

Hex Bolts and Screws - Fine Pitch

Hexagon Socket Head Screws

Hexalobular Socket Head Screws

Self Tapping Screws

Set Screws - Slotted

Set Screws - Socket

Slotted Head Screws

Square Neck Bolts

Keys

Nuts

O-Rings

Pins

Power Transmission

Structural Members

Washers

Toolbox is currently installed on this computer. While that is acceptable for a single user environment, it is not the recommended setup for a multiple user environment.

[Learn More](#)

Hex Screw Grade AB ISO 4014

Hex Screw Grade B ISO 4015

Hex Bolt Grade C ISO 4016

Hex Flange Bolt ISO 4162

Replace Component

Change Fastener Type...

C:\SOLIDWORKS Data\browser\ISO\bolts and screws\hex bolts and screws\hex bolt gradeab\_iso.sldprt

Part Numbers

Part Number Unassigned

Add Edit Delete

Properties

Size

M12

Length: 50

Thread Length: 30

Thread Display: Schematic

Comment:

Configuration Name: ISO 4014 - M12 x 50 x 30-5

Designation: Hexagon head bolt ISO 4014 - M12 x 50

Part Name: Hexagon Head Bolt Grades AB

Specification: M12 x 50

Standard: ISO 4014

Options

Autotize to mated geometry

Equations, Global Variables, and Dimensions

Name	Value / Equation	Evaluates to	Comments
Global Variables			
Features			
Dimensions			
Width flats@Sketch1	36mm	36mm	
D2@Sketch1	120deg	120deg	
D3@Sketch1	= "Width_flats@Sketch1" / 2	18mm	
D4@Sketch1	= "D3@Sketch1"	18mm	
D5@Sketch1	= "D4@Sketch1"	18mm	
Head_ht@BaseHead	15mm	15mm	
Length@BodySke	90mm	90mm	
Body_ch_ang@BodySke	45deg	45deg	
Diameter@BodySke	24mm	24mm	
Minor_dia@BodySke	20.704mm	20.704mm	
Advance@BodySke	3mm	3mm	
Thread_nom@BodySke	54mm	54mm	
D1@BaseBody	360deg	360deg	
D1@Sketch3	= "Width_flats@Sketch1" / 2	18mm	
D2@Sketch3	5mm	5mm	
D3@Sketch3	10mm	10mm	
D4@Sketch3	5mm	5mm	
Head_ch_ang@Sketch3	30deg	30deg	
D1@HeadChamfer	360deg	360deg	
D2@Sketch4	10mm	10mm	
Bearing_ht@Sketch4	0.8mm	0.8mm	
D1@Sketch4	= "Width_flats@Sketch1"	36mm	
D1@BearingFace	360deg	360deg	
Fillet_radius@HeadFillet	0.8mm	0.8mm	
SideAngle@ThdSchSke	55deg	55deg	
VeeAngle@ThdSchSke	70deg	70deg	
Thread_minor@ThdSchSke	= "Minor_dia@BodySke"	20.704mm	
Overcut@ThdSchSke	= "Diameter@BodySke" * 1.25	30mm	
Diameter@ThdSchSke	= "Diameter@BodySke"	24mm	
Start@ThdSchSke	= "Head_ht@BaseHead" + "Length@BodySke" - "Thread_length@ThreadCosmetic"	51mm	...Non-col
D1@ThreadSchematic	360deg	360deg	

☐ Automatically rebuild

☐ Link to external file:

Angular equation units: Radians

☐ Automatic solve order

