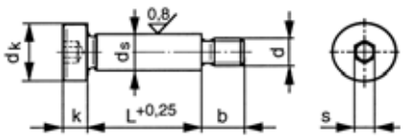
Hexagon socket head shoulder screw f9



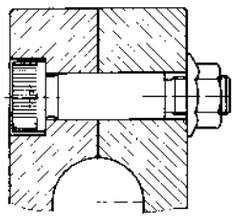
ISO ≈7379
ANSI ≈B18.3.3M
BS ≈4168-7

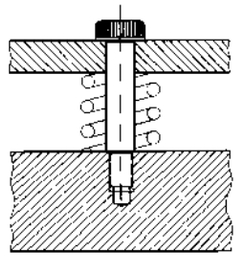
Technical data

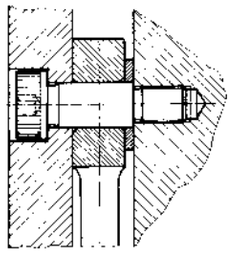
d	M5	M6	M8	M10	M12	M16	M20
P	0,8	1	1,25	1,5	1,75	2	2,5
d_s (nom.)	6	8	10	12	16	20	24
Tolerance f9 (max.)	5,990	7,987	9,987	11,984	15,984	19,980	23,980
Tolerance f9 (min.)	5,960	7,951	9,951	11,941	15,941	19,928	23,928
b	9,5	11	13	16	18	22	27
d_k (max.)	10,22	13,27	16,27	18,27	24,33	30,33	36,39
k (max.)	4,5	5,5	7	9	11	14	16
s	3	4	5	6	8	10	12

- Due to the unfavourable geometry of the head, these fasteners do have reduced load ability.
- When steel fasteners (e.g. 8.8 / 10.9 / 12.9) with reduced load ability needs to be marked, the marking symbol for the property class is preceded by the digit '0'. So 8.8 → 08.8 and 10.9 → 010.9 and 12.9 → 012.9.
- For the stainless steel fasteners it is indicated by only marking the steel grade and by leaving out the property class 70 (e.g. A2-70 → A2).
- The former and the new indications can occur side by side for some time.

Example of application







Article groups

Thread	Driving features	Material	Class	Packaging	Code	Page
M	hexagon socket	St	012.9/12.9	Standard	07111	2-47
M	hexagon socket	St.St. A2		Standard	51044	2-48

07111 Hexagon socket head shoulder screw f9 **D93A**

Thread Metric thread
Material Steel
Class 012.9/12.9
Packaging Standard

(d) ds x L	✉	Art.number	(d) ds x L	✉	Art.number	(d) ds x L	✉	Art.number
M5 6X6	50	07111.050.006	M6 8X30	50	07111.060.030	M8 10X60	50	07111.080.060
M5 6X8	50	07111.050.008	M6 8X35	50	07111.060.035	M8 10X70	50	07111.080.070
M5 6X10	50	07111.050.010	M6 8X40	50	07111.060.040	M8 10X80	50	07111.080.080
M5 6X12	50	07111.050.012	M6 8X45	50	07111.060.045	M8 10X90	50	07111.080.090
M5 6X16	50	07111.050.016	M6 8X50	50	07111.060.050	M8 10X100	25	07111.080.100
M5 6X20	50	07111.050.020	M6 8X60	50	07111.060.060	M8 10X120	25	07111.080.120
M5 6X25	50	07111.050.025	M6 8X70	50	07111.060.070			
M5 6X30	50	07111.050.030				M10 12X12	25	07111.100.012
M5 6X35	50	07111.050.035	M8 10X10	50	07111.080.010	M10 12X16	25	07111.100.016
M5 6X40	50	07111.050.040	M8 10X12	50	07111.080.012	M10 12X20	25	07111.100.020
M5 6X45	50	07111.050.045	M8 10X16	50	07111.080.016	M10 12X25	25	07111.100.025
M5 6X50	50	07111.050.050	M8 10X20	50	07111.080.020	M10 12X30	25	07111.100.030
			M8 10X25	50	07111.080.025	M10 12X35	25	07111.100.035
M6 8X8	50	07111.060.008	M8 10X30	50	07111.080.030	M10 12X40	25	07111.100.040
M6 8X10	50	07111.060.010	M8 10X35	50	07111.080.035	M10 12X45	25	07111.100.045
M6 8X12	50	07111.060.012	M8 10X40	50	07111.080.040	M10 12X50	25	07111.100.050
M6 8X16	50	07111.060.016	M8 10X45	50	07111.080.045	M10 12X55	25	07111.100.055
M6 8X20	50	07111.060.020	M8 10X50	50	07111.080.050	M10 12X60	25	07111.100.060
M6 8X25	50	07111.060.025	M8 10X55	50	07111.080.055	M10 12X70	25	07111.100.070

07111 Hexagon socket head shoulder screw f9

(d) ds x L	✉	Art.number	(d) ds x L	✉	Art.number	(d) ds x L	✉	Art.number
M10 12X80	25	07111.100.080	M12 16X70	25	07111.120.070	M16 20X80	10	07111.160.080
M10 12X90	25	07111.100.090	M12 16X80	25	07111.120.080	M16 20X90	10	07111.160.090
M10 12X100	25	07111.100.100	M12 16X90	25	07111.120.090	M16 20X100	10	07111.160.100
M10 12X120	25	07111.100.120	M12 16X100	25	07111.120.100	M16 20X120	10	07111.160.120
			M12 16X120	25	07111.120.120			
M12 16X20	25	07111.120.020				M20 24X50	5	07111.200.050
M12 16X25	25	07111.120.025	M16 20X30	10	07111.160.030	M20 24X55	5	07111.200.055
M12 16X30	25	07111.120.030	M16 20X35	10	07111.160.035	M20 24X60	5	07111.200.060
M12 16X35	25	07111.120.035	M16 20X40	10	07111.160.040	M20 24X70	5	07111.200.070
M12 16X40	25	07111.120.040	M16 20X45	10	07111.160.045	M20 24X80	5	07111.200.080
M12 16X45	25	07111.120.045	M16 20X50	10	07111.160.050	M20 24X90	5	07111.200.090
M12 16X50	25	07111.120.050	M16 20X55	10	07111.160.055	M20 24X100	5	07111.200.100
M12 16X55	25	07111.120.055	M16 20X60	10	07111.160.060	M20 24X120	5	07111.200.120
M12 16X60	25	07111.120.060	M16 20X70	10	07111.160.070			

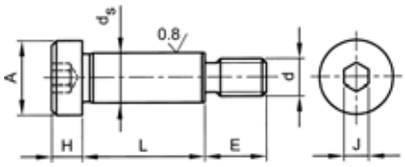
- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

51044 Hexagon socket head shoulder screw f9 Q05A

Thread Metric thread
Material Stainless steel A2
Packaging Standard

(d) ds x L	✉	Art.number	(d) ds x L	✉	Art.number	(d) ds x L	✉	Art.number
(M5)6X10	10	51044.050.010	(M8)10X20	10	51044.080.020	(M10)12X80	5	51044.100.080
(M5)6X12	10	51044.050.012	(M8)10X25	10	51044.080.025	(M10)12X100	5	51044.100.100
(M5)6X16	10	51044.050.016	(M8)10X30	10	51044.080.030			
(M5)6X20	10	51044.050.020	(M8)10X40	10	51044.080.040	(M12)16X30	5	51044.120.030
(M5)6X25	10	51044.050.025	(M8)10X50	10	51044.080.050	(M12)16X40	5	51044.120.040
(M5)6X30	10	51044.050.030	(M8)10X60	10	51044.080.060	(M12)16X50	5	51044.120.050
(M5)6X40	10	51044.050.040	(M8)10X70	10	51044.080.070	(M12)16X60	5	51044.120.060
			(M8)10X80	10	51044.080.080	(M12)16X70	5	51044.120.070
(M6)8X12	10	51044.060.012				(M12)16X80	5	51044.120.080
(M6)8X16	10	51044.060.016	(M10)12X16	5	51044.100.016	(M12)16X100	5	51044.120.100
(M6)8X20	10	51044.060.020	(M10)12X20	5	51044.100.020			
(M6)8X25	10	51044.060.025	(M10)12X25	5	51044.100.025	(M16)20X40	3	51044.160.040
(M6)8X30	10	51044.060.030	(M10)12X30	5	51044.100.030	(M16)20X50	3	51044.160.050
(M6)8X40	10	51044.060.040	(M10)12X40	5	51044.100.040	(M16)20X60	3	51044.160.060
(M6)8X50	10	51044.060.050	(M10)12X50	5	51044.100.050	(M16)20X70	3	51044.160.070
			(M10)12X60	5	51044.100.060	(M16)20X80	3	51044.160.080
(M8)10X16	10	51044.080.016	(M10)12X70	5	51044.100.070			

Hexagon socket head shoulder screw UNC



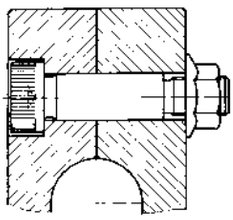
ANSI B18.3
BS 2470

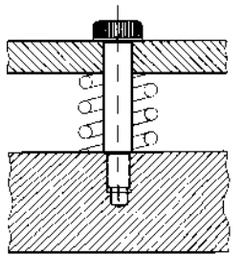
2

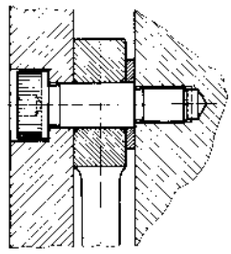
Technical data

d	No.10	1/4	5/16	3/8	1/2	5/8
Threads per inch	24	20	18	16	13	11
d_s (nom.)	1/4	5/16	3/8	1/2	5/8	3/4
Tolerance d_s (min.)	6,299	7,887	9,474	12,649	15,824	18,999
Tolerance d_s (max.)	6,248	7,836	9,423	12,598	15,773	18,948
E	9,5	11,1	12,7	15,9	19,05	22,2
A (max.)	9,5	11,1	14,3	19,05	22,2	24,4
H (max.)	4,75	5,56	6,35	7,95	9,5	12,5
J	1/8	5/32	3/16	1/4	5/16	3/8

Example of application







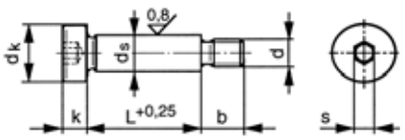
07116 Hexagon socket head shoulder screw UNC **X05A**

Thread Unified National Coarse
Material Steel
Class 12.9
Packaging Standard

(d) ds x L	✉	Art.number	(d) ds x L	✉	Art.number	(d) ds x L	✉	Art.number
(NO10)1/4X3/4	25	07116.048.019	(5/16)3/8X1.1/2	10	07116.079.038	(1/2)5/8X1.1/2	5	07116.127.038
(NO10)1/4X1.IN.	25	07116.048.025	(5/16)3/8X1.3/4	10	07116.079.044	(1/2)5/8X2.IN.	5	07116.127.050
(NO10)1/4X1.1/4	25	07116.048.031	(5/16)3/8X2.IN.	10	07116.079.050	(1/2)5/8X2.1/2	5	07116.127.063
(NO10)1/4X1.1/2	10	07116.048.038	(5/16)3/8X2.1/2	10	07116.079.063	(1/2)5/8X3.IN.	5	07116.127.076
(NO10)1/4X2.IN.	10	07116.048.050	(5/16)3/8X3.IN.	10	07116.079.076	(1/2)5/8X3.1/2	3	07116.127.088
(1/4)5/16X1.IN.	25	07116.063.025				(1/2)5/8X4.IN.	3	07116.127.101
(1/4)5/16X1.1/4	25	07116.063.031	(3/8)1/2X1.IN.	10	07116.096.025			
(1/4)5/16X1.1/2	25	07116.063.038	(3/8)1/2X1.1/4	10	07116.096.031	(5/8)3/4X2.IN.	3	07116.158.050
(1/4)5/16X1.3/4	10	07116.063.044	(3/8)1/2X1.1/2	10	07116.096.038	(5/8)3/4X2.1/2	3	07116.158.063
(1/4)5/16X2.IN.	10	07116.063.050	(3/8)1/2X2.IN.	10	07116.096.050	(5/8)3/4X3.IN.	3	07116.158.076
(1/4)5/16X2.1/4	10	07116.063.057	(3/8)1/2X2.1/2	5	07116.096.063	(5/8)3/4X3.1/2	3	07116.158.088
(1/4)5/16X2.1/2	10	07116.063.063	(3/8)1/2X3.IN.	5	07116.096.076	(5/8)3/4X4.IN.	3	07116.158.101
			(3/8)1/2X3.1/2	5	07116.096.088			
(5/16)3/8X3/4	10	07116.079.019	(3/8)1/2X4.IN.	5	07116.096.101			
(5/16)3/8X1.IN.	10	07116.079.025						
(5/16)3/8X1.1/4	10	07116.079.031	(1/2)5/8X1.1/4	5	07116.127.031			

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

Hexagon socket head shoulder screw h8



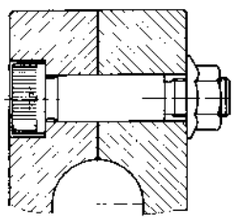
ISO ≈7379
ANSI ≈B18.3.3M
BS ≈4168-7

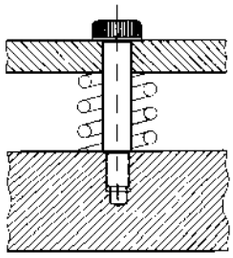
Technical data

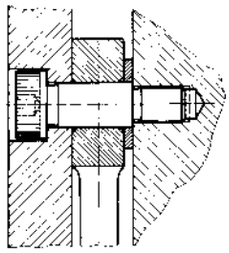
d	M5	M6	M8	M10	M12
P	0,8	1	1,25	1,5	1,75
d_s (nom.)	6 (≠ISO)	8	10	12 (≠ISO)	16
Tolerance h8 (max.)	6,000	8,000	10,000	12,000	16,000
Tolerance h8 (min.)	5,982	7,978	9,978	11,973	15,973
b	9,5	11	13	16	18
d_k (max.)	10,22	13,27	16,27	18,27	24,33
k (max.)	4,5	5,5	7	9 (≠ISO)	11 (≠ISO)
s	3	4	5	6	8

- Due to the unfavourable geometry of the head, these fasteners do have reduced load ability.
- When steel fasteners (e.g. 8.8 / 10.9 / 12.9) with reduced load ability needs to be marked, the marking symbol for the property class is preceded by the digit '0'. So 8.8 → 08.8 and 10.9 → 010.9 and 12.9 → 012.9.
- For the stainless steel fasteners it is indicated by only marking the steel grade and by leaving out the property class 70 (e.g. A2-70 → A2).
- The former and the new indications can occur side by side for some time.

Example of application

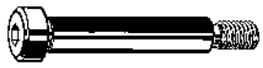






07117 Hexagon socket head shoulder screw h8 **D93A**

Thread Metric thread
Material Steel
Class 012.9/12.9
Packaging Standard



(d) ds x L	✉	Art.number	(d) ds x L	✉	Art.number	(d) ds x L	✉	Art.number
M5 6X10	50	07117.050.010	M8 10X16	50	07117.080.016	M10 12X80	25	07117.100.080
M5 6X12	50	07117.050.012	M8 10X20	50	07117.080.020	M10 12X90	25	07117.100.090
M5 6X16	50	07117.050.016	M8 10X25	50	07117.080.025	M10 12X100	25	07117.100.100
M5 6X20	50	07117.050.020	M8 10X30	50	07117.080.030			
M5 6X25	50	07117.050.025	M8 10X40	50	07117.080.040	M12 16X30	25	07117.120.030
M5 6X30	50	07117.050.030	M8 10X50	50	07117.080.050	M12 16X40	25	07117.120.040
M5 6X40	50	07117.050.040	M8 10X60	50	07117.080.060	M12 16X50	25	07117.120.050
			M8 10X70	50	07117.080.070	M12 16X60	25	07117.120.060
M6 8X10	50	07117.060.010				M12 16X70	25	07117.120.070
M6 8X12	50	07117.060.012	M10 12X16	25	07117.100.016	M12 16X80	25	07117.120.080
M6 8X16	50	07117.060.016	M10 12X20	25	07117.100.020	M12 16X90	25	07117.120.090
M6 8X20	50	07117.060.020	M10 12X25	25	07117.100.025	M12 16X100	25	07117.120.100
M6 8X25	50	07117.060.025	M10 12X30	25	07117.100.030	M12 16X120	25	07117.120.120
M6 8X30	50	07117.060.030	M10 12X40	25	07117.100.040			
M6 8X40	50	07117.060.040	M10 12X50	25	07117.100.050			
M6 8X50	50	07117.060.050	M10 12X60	25	07117.100.060			
			M10 12X70	25	07117.100.070			

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.