

11 Bottom Block

11.1 Bottom Block Dimensions – SX2, SX3, SX4 Hoists

NOTE: Bottom block dimensions on this page for SX5 (except SX5 021 and 041), SX6, and SX7 hoists are no longer valid. Use the bottom block dimensions on next page.

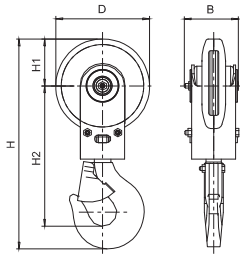


Figure 1

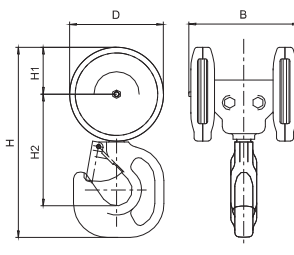


Figure 2

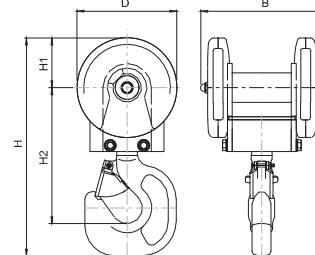


Figure 3

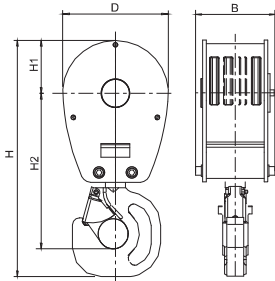


Figure 4

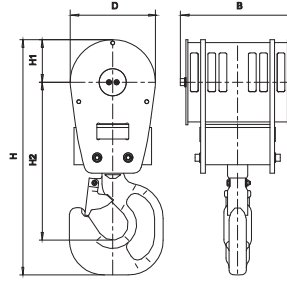


Figure 5

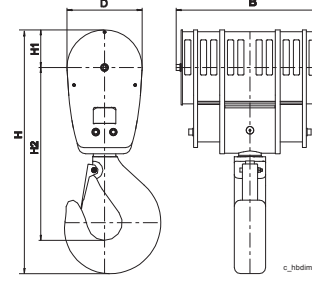


Figure 6

Note 1: H and H2 dimensions listed in table are for standard hook forging type.

Hoist	Reeving Code	Max. Hoist Duty	Std. Hook Forging Type	Alt. RSN Forging Type	Figure	H [mm] Note 1	H1 [mm]	H2 [mm] Note 1	D [mm]	B [mm]	Approx. Weight [kg]
SX2/3	021	M6	RSN 1 V		1	375	84	251	168	108	9.3
SX2/3	041	M6	HBC 1.6 V	RSN 1.6	2	337	84	198	168	221	13
SX4	A2	M6	RSN		1	332	83	249	166	108	9.3
SX4	A4	M6	HBC 1.6 V	RSN 1.6	2	337	82	198	166	331	13
SX4	021	M6	RSN 1 V		1	414	102	272	204	118	14
SX4	041	M6	HBC 2.5 V	---	2	426	102	259	204	270	21.8
SX4	041	M6	---	RSN 2.5	3	452	102	291	204	240	31
SX5	021	M6	HBC 2.5 V	RSN 2.5	1	578	142	371	283	132	31
SX5	041	M6	HBC 5 V	---	2	548	142	316	283	376	46.5
SX5	041	M6	---	RSN 6	3	604	142	372	283	340	77
SX5	061	M5	HBC 5 V	RSN 6	4	687	150	447	300	220	89
SX5	081	M4	HBC 5 V	RSN 6	4	687	150	447	300	220	95
SX5	022	M6	HBC 2.5 V	RSN 4	4	449	110	324	220	165	29
SX5	042	M6	HBC 5 V	RSN 6	5	608	110	408	220	220	67
SX5	062	M6	RSN 6 V		5	644	110	448	220	296	78
SX6	021	M6	HBC 5 V	RSN 6	4	788	198	500	395	219	94
SX6	041	M6	HBC 5 V	RSN 6	4	788	198	500	395	219	106
SX6	061	M5	RSN 10 T		4	930	198	625	395	259	182
SX6	081	M4	RSN 16 T		6	1067	198	735	395	289	264
SX6	022	M6	HBC 5 V	RSN 6	4	687	150	447	300	220	90
SX6	042	M6	HBC 5 V	RSN 6	4	687	150	447	300	220	95
SX6	062	M5	RSN 10 T		6	844	150	587	300	373	177
SX6	082	M4	RSN 16 T		6	974	150	690	300	483	292
SX7	022	M6	HBC 5 V	RSN 6	4	788	198	500	395	219	107
SX7	042	M6	RSN 16 T		6	1110	228	735	455	335	309
SX7	062	M5	RSN 20 T		6	1221	228	790	455	487	485
SX7	082	M4	RSN 25 T		6	1282	228	886	455	579	585

See Section 4 for Reeving Code definition

11.2 Bottom Block Dimensions – SX5, SX6, SX7 Hoists

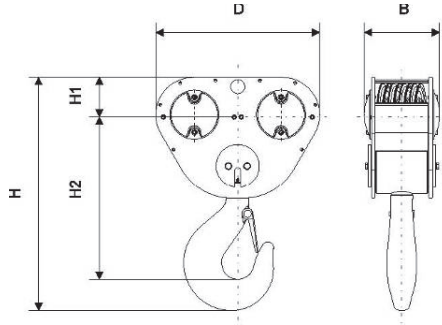


Figure 7

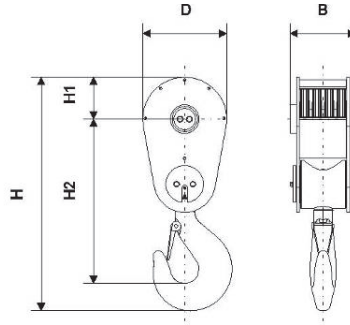


Figure 8

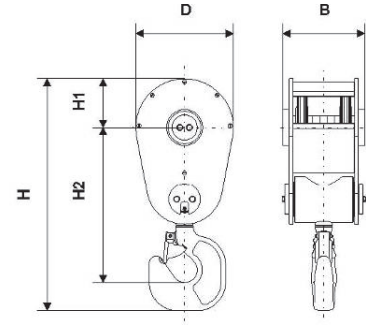


Figure 9

Note 1: H and H2 dimensions listed in table are for standard hook forging type.

Hoist	Reeving Code	Max. Hoist Duty	Std. Hook Forging Type	Alt. RSN Forging Type	Figure	H [mm] Note 1	H1 [mm]	H2 [mm] Note 1	D [mm]	B [mm]	Approx. Weight [kg]
SX5	061	M6	HBC 5 V	RSN 6	9	740	155	495	310	243	87
SX5	081	M5	HBC 5 V	RSN 6	9	740	155	495	310	243	92
SX5	022	M6	HBC 2.5 V		9	541	115	361	230	203	38
SX5	042	M6	RSN 6 V		7	639	120	433	530	243	101
SX5	062	M6	RSN 6 V		7	639	120	433	530	243	104
SX5	082	M5	RSN 6 V		7	639	120	433	530	243	111
SX6	021	M6	HBC 5 V	RSN 6	9	830	205	535	410	280	98
SX6	041	M6	HBC 5 V	RSN 6	9	830	205	535	410	280	111
SX6	061	M6	RSN 10 T		8	996	205	684	410	314	181
SX6	081	M5	RSN 16 T		8	1126	205	787	410	322	236
SX6	022	M6	HBC 5 V		9	740	155	495	310	259	78
SX6	042	M6	RSN 6 V		7	719	160	473	700	312	143
SX6	062	M6	RSN 10 T		7	861	160	594	700	316	192
SX6	082	M5	RSN 16 T		7	981	160	687	700	324	299
SX7	022	M6	RSN 6 V		8	844	205	553	410	280	114
SX7	042	M6	RSN 16 T		7	1041	200	707	910	393	332
SX7	062	M6	RSN 20 T		7	1130	200	778	910	402	495
SX7	082	M5	RSN 25 T		7	1224	200	852	910	411	603

See Section 4 for Reeving Code definition

New load block design for SX6 & SX7 hoists - effective June 2010

New load block design for SX5 hoists – effective June 2012

Load block design for SX5 021 and 041 hoists has not changed.

11.3 Block Construction

The bottom block is outfitted with either a RSN or HBC hook type as standard. Use the table in the **Bottom Block Dimensions** section to identify the actual hook forging type used in the bottom block for a particular hoist model.

The hook is equipped with a spring-loaded, flipper-type safety latch and is supported on a thrust bearing to allow hook to rotate 360° easily under a load. The material information for the entire bottom block is found in the **Materials** section.

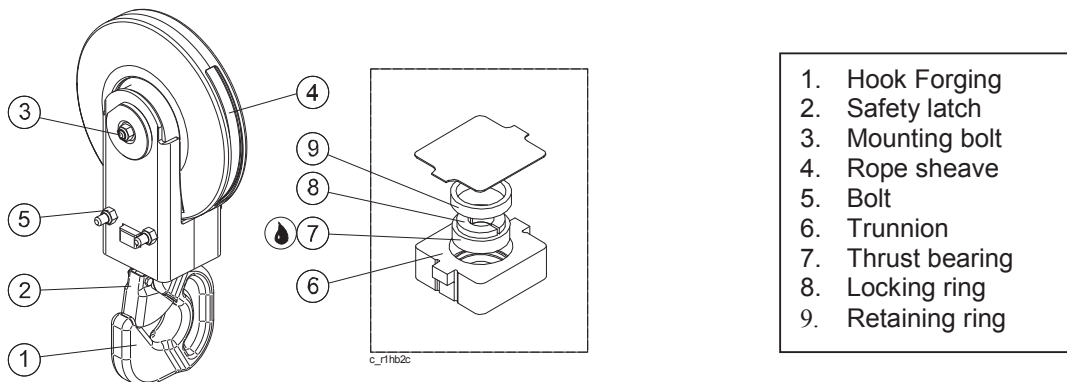


Illustration of a 2-part single bottom block

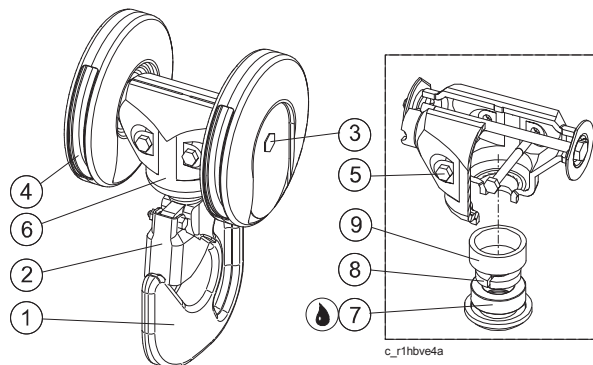
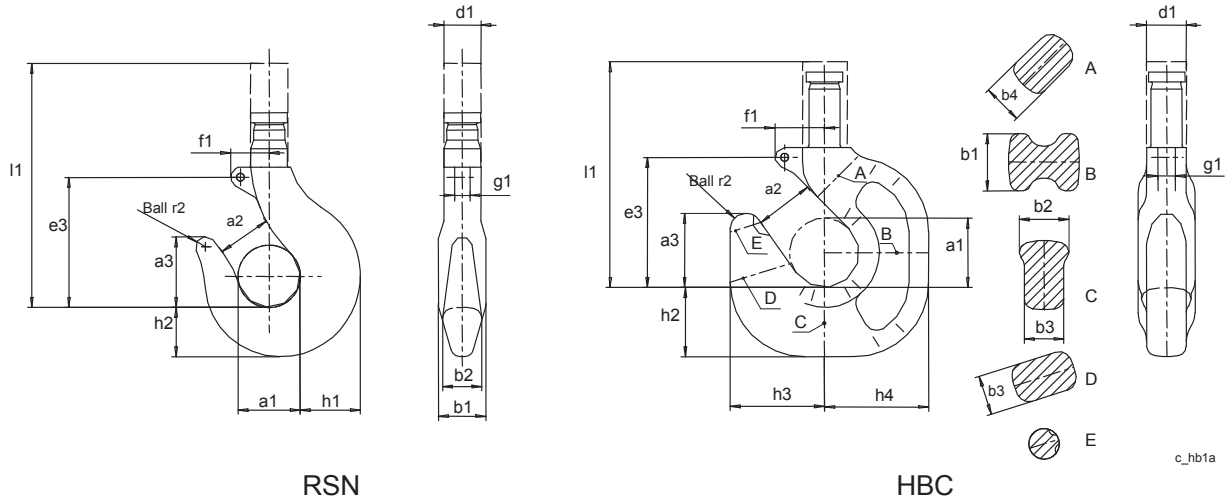


Illustration of a 4-part single bottom block

11.4 RSN and HBC Hook Forging Dimensions

The RSN or HBC hook forging is made from alloy steel. More information on the hook forging material is described in the **Materials** section.



RSN

HBC

c_hb1a

	RSN hook type										HBC hook type		
	RSN 1	RSN 1.6	RSN 2.5	RSN 4	RSN 5	RSN 6	RSN 10	RSN 16	RSN 20	RSN 25	HBC 1.6	HBC 2.5	HBC 5
a ₁	50+3	56+3	63+3	71+4	80+4	90+5	112+6	140+6	160+8	180+8	56+3	63+3	80+3
a ₂	40+3	45+3	50+3	56+4	63+4	71+5	90+6	112+6	125+8	140+8	45+3	51+3	63+3
a ₃	57+3	64+3	72+3	80+4	90+4	101+5	127+6	160+6	180+8	202+8	60+3	65+3	84+3
b ₁	38+3	45+3	53+3	63+4	71+4	80+5	100+6	125+6	140+8	160+8	46+3	52+3	75+3
b ₂	32+3	38+3	45+3	53+4	60+4	67+5	85+6	106+6	118+8	132+8	40+3	44+3	64+3
b ₃	-	-	-	-	-	-	-	-	-	-	32+3	37+3	59+3
b ₄	-	-	-	-	-	-	-	-	-	-	32+3	37+3	45+2
d ₁	30+3	36+3	42+3	48+4	53+4	60+5	75+6	95+6	106+8	118+8	38+3	44+3	55+3
e ₃	105+3	118+3	132+3	148+4	165+4	185+5	221+6	280+6	330+8	360+8	105+3	118+3	148+3
f ₁	31+1	35+1	40+1	45+2	51+2	57+2	46+3	58+3	68+3	74+3	40+1	45+2	56+2
g ₁	12.5+1	14+1	16+1	16+2	18+2	18+2	23+3	33+3	33+3	38+3	14+1	16+1	18+2
h ₁	48+3	56+3	67+3	80+4	90+4	100+5	125+6	160+6	180+8	200+8	-	-	-
h ₂	40+3	48+3	58+3	67+4	75+4	85+5	106+6	132+6	150+8	170+8	56+3	65+3	90+4
h ₃	-	-	-	-	-	-	-	-	-	-	76+3	85+3	112+4
h ₄	-	-	-	-	-	-	-	-	-	-	84+3	100+3	130+4
l ₁	197+3	224+3	253+3	285+4	318+4	380+5	452+6	582+6	653+8	724+8	199+3	260+3	300+4
r ₂	50+3	56+3	63+3	71+4	80+4	90+5	112+6	140+6	160+8	180+8	56+3	63+3	80+4
Wgt.	3.2 kg	4.5 kg	6.3 kg	8.8 kg	12.3 kg	17.1 kg	34 kg	66 kg	95 kg	136 kg	5.1 kg	8 kg	15 kg

NOTE: All dimensions are in mm and weights are in kilogram in the above table.
 The safety latch decreases dimension a₂ about 5 mm on HBC forging and about 15 mm on RSN forgings.
 The number after the nominal dimension indicates the tolerance. For example, 160+6 means that the actual size could be from 160 mm to 166 mm.

11.5 DIN Hooks – HOK09

This option is used to replace the HBC type hook with the equivalent RSN size hook. The RSN hook can be specified as an alternative to the HBC hook, which is the standard hook type in the bottom blocks of some hoist models. Use the table in the **Bottom Block Dimensions** section to identify the standard hook forging and alternative RSN hook forging on the bottom block for a particular hoist.

NOTE: Replacing the HBC hook with the equivalent RSN hook will increase headroom from standard. The DAS-generated offer drawing from QuoteMaster® will have the actual headroom dimension. If headroom is critical for the application, contact R&M to confirm the accuracy of the headroom dimension.

11.6 Other Hooks – HOK07

Upon R&M's review for compatibility and pricing, oversized DIN hook (RSN or HBC type), or another hook brand such as Bullard, or Crosby can be specified as an alternative to the standard.

11.7 Ramshorn (twin-points) Hooks – HOK03

Upon R&M's review for pricing, a DIN standard (15402) ramshorn hook of equal size to the RSN hook listed for the particular bottom block can be specified as an alternative to the standard single point hook. Each point of the ramshorn hook has a spring-loaded, flipper-type safety latch.

11.8 Sheaves

- Sheave groove is 45° and closely matches the rope diameter
- Sheave bearings are lifetime lubricated
- Ductile iron sheaves
- 240 to 302 BHN
- Pitch diameter of sheaves meets or exceeds ASME H4 recommendation

Hoist	Reeving	Sheave Pitch ø [mm] Hoist frame	Sheave Pitch ø [mm] Bottom Block	Groove radius [mm]	Wire rope ø [mm]
SX2 or SX3	2 part single	No upper sheave	146	3.3	6.4
	4 part single	146			
SX4 Special	A2 special	No upper sheave	146	3.3	6.7
	A4 special	146			6.4
SX4	2 part single	No upper sheave	180	4.2	8.0
	4 part single	180			
SX5	2 part single	No upper sheave	248	5.8	11.0
	4 part single	248			
	6 part single				
	8 part single				
SX5	2 part double	No upper sheave	180	4.2	8.0
	4 part double	180			
	6 part double				
SX6	2 part single	No upper sheave	338	8.0	15.0
	4 part single	338			
	6 part single				
	8 part single				
SX6	2 part double	No upper sheave	248	5.8	11.0
	4 part double	248	248/288 ¹⁾		
	6 part double				
	8 part double				
SX7	2 part double	No upper sheave	338	8.0	15.0
	4 part double	338	338/398 ¹⁾		
	6 part double				
	8 part double				

¹⁾ The larger diameter sheaves are in the bottom block and are located between the smaller diameter sheaves.