

Teknisk information

Cylindriska kugghjul

Cylindriska kugghjul används för att få en utväxling och för att överföra ett moment. Generellt kan sägas att desto större moment desto kraftigare kugg på hjulet. Rörelsen överförs mellan parallella axlar.

I Europa tillämpas kuggdimensionering enligt modul-systemet.

Modulen definieras: $m = \frac{t}{\pi}$

Bearbetning av kugghjul

Axelhålet är centrerat i förhållande till toppdiameter. Vid bearbetning skall kugghjulet uppspännas med mjuka backar på ytterdiametern. Uppspänningen får ej ske på navets yttre diameter, då denna ej är centrerad i förhållande till kuggningen.

Beteckningar

a	=	Axelavstånd
b	=	Kuggens bredd
Do	=	Delningsdiameter
Dk	=	Toppdiameter
i	=	Utväxlingsförhållande
k	=	Kuggens topphöjd (mm)
m	=	Modul
n	=	Varvtal (min ⁻¹)
t	=	Kuggdelning (mm)
z	=	Kuggtal

Delningsdiameter $Do = m \cdot z$
Toppdiameter $Dk = Do + 2 \cdot m$

Axelavstånd $a = \frac{Do1 + Do2}{2} = m \cdot \frac{z1 + z2}{2}$

Utväxlingsförhållande $i = \frac{z2}{z1} = \frac{Do2}{Do1} = \frac{n1}{n2}$

Överförbart vridmoment

Kugghjulets förmåga att överföra moment påverkas av flera faktorer. Kuggmodul, kuggbredd, material och värmebehandling har inverkan på kuggens hållfasthet. Dessutom beror livslängden på noggrannhet i montering och smörjning.

De angivna vridmomenten är beräknade vid 200 min⁻¹. Värdena baseras på säkerhetsfaktorer 1,4 för kuggrot och 1,0 för kuggflank. Vid val av kugghjul utgår man alltid från det lilla hjulets belastning. Allmänna drifts- och säkerhetsfaktorer tillämpas.

Drifts- och säkerhetsfaktorer
Normal säkerhet S = 1,0
Belastning fb vid 8 timmars drift/dygn = 1,2

Axelavstånd

Vid montering måste hänsyn tas till axelavståndet (DIN 3964). Som riktlinjer gäller:

± 0,03 mm	för axelavstånd till 40 mm
± 0,04 mm	för axelavstånd till 100 mm
± 0,05 mm	för axelavstånd till 250 mm
± 0,06 mm	för axelavstånd över 250 mm

Exempel

I en maskin vill vi använda cylindriska kugghjul för en reduktion av ingående varvtalet från en elektrisk motor med följande data:

P = 0,65 kW n1 = 1420 min⁻¹

Vi har funnit att ett lämpligt kuggtal på drivhjulet från motorn är 15 tänder. Önskat utgångsvarvtal n2 = 710 min⁻¹

Kuggtalet på utgångshjulet blir:

$$z2 = \frac{z1 \cdot n1}{n2} = \frac{15 \cdot 1420}{710} = 30 \text{ tänder}$$

Beräkning av lämplig modul:

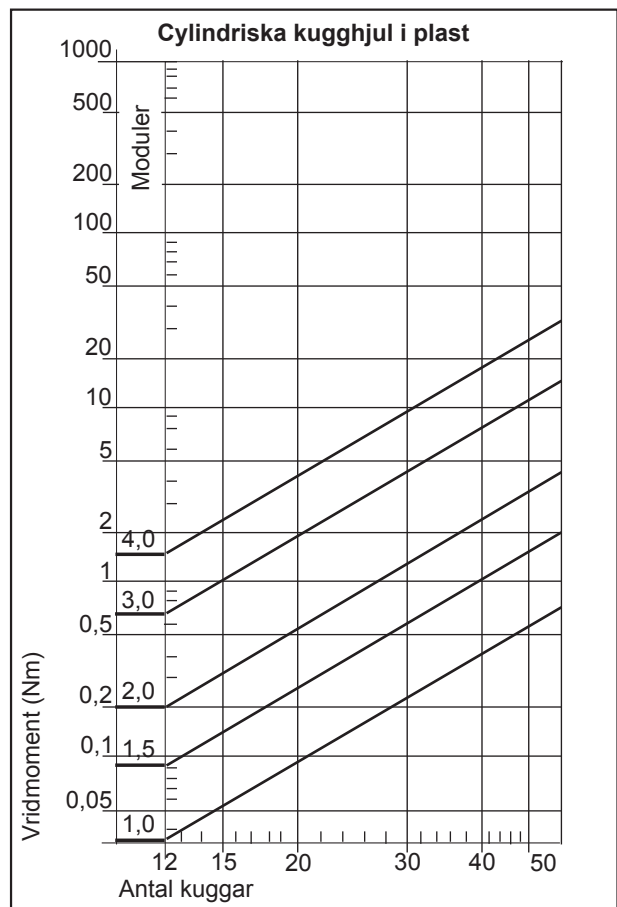
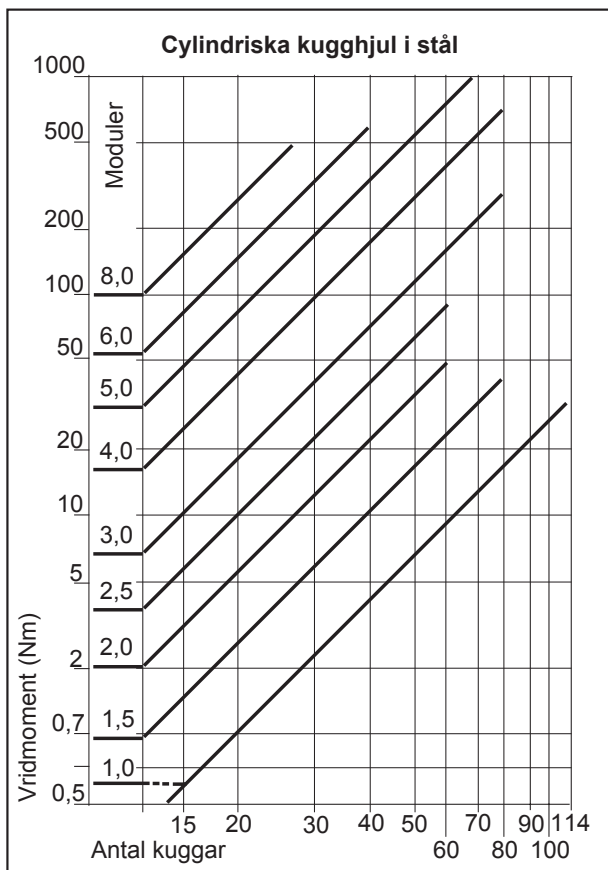
Momenten Mv eff =

$$9550 \cdot \frac{PkW}{n} = \frac{0,65}{1420} = 4,6 \text{ Nm}$$

P = (kW) n = (min⁻¹)

CYLINDRISKA KUGGHJUL

Belastningsdiagram



CYLINDRISKA KUGGHJUL

Modul 0,5

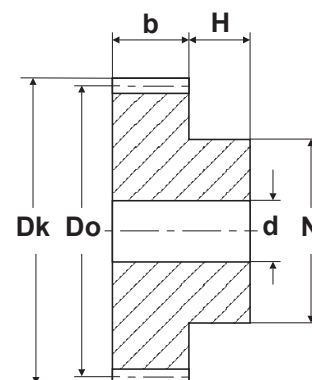
Material

Mässing SS 5170



KUGGBREDD b = 3 mm							
Kugg	Artikelnr	Typ	dk	do	H	n	d
12	05012M	N	7,0	6,0	4	4,5	2
13*	05013-M02	N	7,5	6,5	4	5,0	2
14*	05014-M02	N	8,0	7,0	4	5,0	2
15*	05015-M02	N	8,5	7,5	4	6,0	2
16	05016M	N	9,0	8,0	4	6,0	2
18	05018M	N	10,0	9,0	4	6,0	2
19	05019M	N	10,5	9,5	4	6,0	2
20*	05020-M02	N	11,0	10,0	4	8,0	2
21	05021M	N	11,5	10,5	4	7,0	2
23	05023M	N	12,5	11,5	4	8,0	2
24	05024M	N	13,0	12,0	5	8,0	2
25	05025M	N	13,5	12,5	5	8,0	2
30	05030M	N	16,0	15,0	5	8,0	3
35*	05035-M02	N	18,5	17,5	4	12,0	3
38*	05038-M02	N	20,0	19,0	4	12,0	3
40*	05040-M02	N	21,0	20,0	4	12,0	3
45*	05045-M02	N	23,5	22,5	4	12,0	3
48*	05048-M02	N	25,0	24,0	4	12,0	3
50	05050M	N	26,0	25,0	5	8,0	3
57	05057M	N	29,5	28,5	5	20,0	3
60*	05060-M02	N	31,0	30,0	5	20,0	3
65*	05065-M02	N	33,5	32,5	4	15,0	3
70*	05070-M02	N	36,0	35,0	4	15,0	3
72*	05072-M02	N	37,0	36,0	4	15,0	3
75*	05075-M02	N	38,5	37,5	4	15,0	3
80*	05080-M02	N	41,0	40,0	4	15,0	3
90	05090M	N	46,0	45,0	5	20,0	3
95	05095M	N	48,5	47,5	5	20,0	3
96*	05096-M02	N	49,0	48,0	4	15,0	3
100	05100M	N	51,0	50,0	5	20,0	3
114	05114M	N	58,0	57,0	5	20,0	3

Typ N



*OBS! b = 2

CYLINDRISKA KUGGHJUL

Modul 0,5

Material

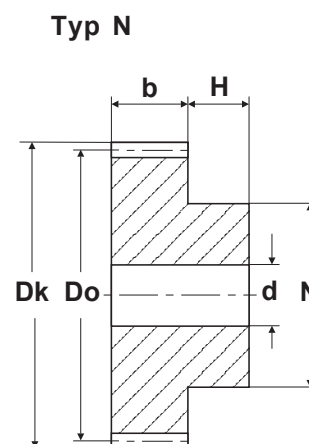
Automatstål SS EN 10087-11SMn30 (1.0715)



KUGGBREDD b = 3 mm							
Kugg	Artikelnr	Typ	dk	do	H	n	d
10*	05010S	N	6,0	5,0	4	4,0	2
12	05012S	N	7,0	6,0	4	4,5	2
14	05014S	N	8,0	7,0	4	5,0	2
15	05015S	N	8,5	7,5	4	5,5	2
16	05016S	N	9,0	8,0	4	6,0	2
18	05018S	N	10,0	9,0	4	6,0	2
19	05019S	N	10,5	9,5	4	6,0	2
20**	05020-S04	N	11,0	10,0	4	8,0	3
21**	05021-S04	N	11,5	10,5	4	8,0	3
22	05022S	N	12,0	11,0	4	7,0	2
23	05023S	N	12,5	11,5	4	8,0	2
24**	05024-S04	N	13,0	12,0	4	8,0	3
25	05025S	N	13,5	12,5	5	8,0	2
30	05030S	N	16,0	15,0	5	8,0	3
38**	05038-S04	N	20,0	19,0	4	12,0	4
40**	05040-S04	N	21,0	20,0	4	12,0	4
45**	05045-S04	N	23,5	22,5	4	15,0	5
50	05050S	N	26,0	25,0	5	10,0	3
57	05057S	N	29,5	28,5	5	20,0	3
60	05060S	N	31,0	30,0	5	20,0	3
70	05070S	N	36,0	35,0	5	20,0	3
80**	05080-S04	N	41,0	40,0	4	20,0	5
90	05090S	N	46,0	45,0	5	20,0	3
95	05095S	N	48,5	47,5	5	20,0	3
100	05100S	N	51,0	50,0	5	20,0	3
114	05114S	N	58,0	57,0	5	20,0	3

*OBS! b = 6

**OBS! b = 4

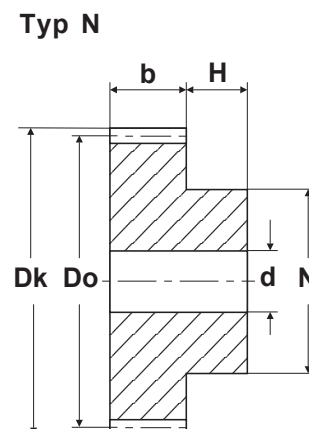


Modul 0,7

Material

Mässing SS 5170

KUGGBREDD b = 4 mm							
Kugg	Artikelnr	Typ	dk	do	H	n	d
12	07012M	N	9,8	8,4	6	6	3
15	07015M	N	11,9	10,5	6	8	3
18	07018M	N	14,0	12,6	6	10	3
20	07020M	N	15,4	14,0	6	10	4
24	07024M	N	18,2	16,8	6	12	4
25	07025M	N	18,9	17,5	6	12	4
30	07030M	N	22,4	21,0	6	12	4
36	07036M	N	26,6	25,2	6	12	4
40	07040M	N	29,4	28,0	6	12	5
45	07045M	N	32,9	31,5	6	12	5
50	07050M	N	36,4	35,0	6	15	5
60	07060M	N	43,4	42,0	8	15	5
70	07070M	N	50,4	49,0	8	18	5
80	07080M	N	57,4	56,0	8	18	5



CYLINDRISKA KUGGHJUL

Modul 1

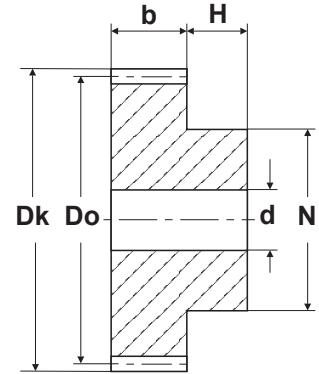
Material

Mässing SS 5170



KUGGBREDD = b								
Kugg	Artikelnr	b	Typ	dk	do	H	n	d
12	10012-M08	8	N	14	12	8	9	5
15	10015-M08	8	N	17	15	8	12	6
16	10016-M06,5	6,5	N	18	16	6	12	5
18	10018-M06,5	6,5	N	20	18	6	12	5
20	10020-M08	8	N	22	20	8	17	8
24	10024-M06,5	6,5	N	26	24	6	15	5
25	10025-M06	6	N	27	25	6	14	5
30	10030-M08	8	N	32	30	8	25	5
32	10032-M06,5	6,5	N	34	32	6	18	5
36	10036-M08	8	N	38	36	8	25	5
38	10038-M06,5	6,5	N	40	38	6	20	5
40	10040-M08	8	N	42	40	8	30	10
48	10048-M08	8	N	50	48	10	30	6
50	10050-M06	6	N	52	50	8	25	8
60	10060-M08	8	N	62	60	8	50	6
70	10070-M08	8	N	72	70	8	35	10
80	10080-M06	6	N	82	80	6	40	8
90	10090-M06,5	6,5	N	92	90	12	40	8
100	10100-M06,5	6,5	N	102	100	12	50	10

Typ N

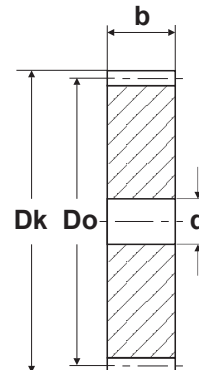


Material

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KUGGBREDD b = 8 mm								
Kugg	Artikelnr	Typ	dk	do	H	n	d	
10	10010-S08	N	12	10	8	8	5	
12	10012-S08	N	14	12	8	9	5	
13	10013-S08	N	15	13	8	10	5	
15	10015-S08	N	17	15	8	12	6	
16	10016-S08	N	18	16	8	13	6	
17	10017-S08	N	19	17	8	12	5	
18	10018-S08	N	20	18	8	15	8	
19	10019-S08	N	21	19	8	15	6	
20	10020-S08	N	22	20	8	17	8	
21	10021-S08	N	23	21	8	18	8	
22	10022-S08	N	24	22	8	18	6	
23	10023-S08	N	25	23	8	18	6	
24	10024-S08	N	26	24	8	20	8	
25	10025-S08	N	27	25	8	22	8	
26	10026-S08	N	28	26	8	20	6	
30	10030-S08	N	32	30	8	25	8	
32	10032-S08	N	34	32	8	25	8	
35	10035-S08	N	37	35	8	25	8	
36	10036-S08	N	38	36	8	28	10	
38	10038-S08	N	40	38	8	25	8	
40	10040-S08	N	42	40	8	30	10	
42	10042-S08	N	44	42	10	30	8	
45	10045-S08	N	47	45	8	30	10	
48	10048-S08	N	50	48	8	35	10	
50	10050-S08	N	52	50	8	35	10	
60	10060-S08	N	62	60	8	50	10	
65	10065-S08	N	67	65	10	40	10	
70	10070-S08	N	72	70	8	50	10	
80	10080-S08	N	82	80	10	40	10	
90	10090-S08	N	92	90	10	40	10	
100	10100-S08	L	102	100	-	-	12	

Typ L



CYLINDRISKA KUGGHJUL

Modul 1

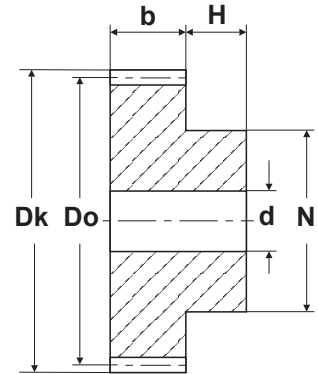
Material

Stål SS EN 10083-1 - C45E (1.1191)

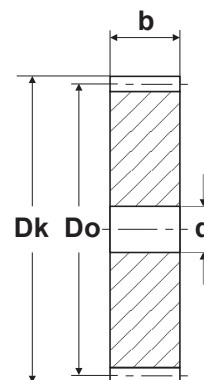


KUGGBREDD b = 15 mm							
Kugg	Artikelnr	Typ	dk	do	H	n	d
12	10012-S15	N	14	12	10	9	-
13	10013-S15	N	15	13	10	10	-
14	10014-S15	N	16	14	10	11	-
15	10015-S15	N	17	15	10	12	-
16	10016-S15	N	18	16	10	13	-
17	10017-S15	N	19	17	10	14	-
18	10018-S15	N	20	18	10	15	8
19	10019-S15	N	21	19	10	15	8
20	10020-S15	N	22	20	10	16	8
21	10021-S15	N	23	21	10	16	8
22	10022-S15	N	24	22	10	16	8
23	10023-S15	N	25	23	10	18	8
24	10024-S15	N	26	24	10	20	10
25	10025-S15	N	27	25	10	20	10
26	10026-S15	N	28	26	10	20	10
27	10027-S15	N	29	27	10	20	10
28	10028-S15	N	30	28	10	20	10
29	10029-S15	N	31	29	10	20	10
30	10030-S15	N	32	30	10	20	10
31	10031-S15	N	33	31	10	25	10
32	10032-S15	N	34	32	10	25	10
33	10033-S15	N	35	33	10	25	10
34	10034-S15	N	36	34	10	25	10
35	10035-S15	N	37	35	10	25	10
36	10036-S15	N	38	36	10	25	10
37	10037-S15	N	39	37	10	25	10
38	10038-S15	N	40	38	10	25	10
39	10039-S15	N	41	39	10	25	10
40	10040-S15	N	42	40	10	25	10
41	10041-S15	N	43	41	10	30	10
42	10042-S15	N	44	42	10	30	10
43	10043-S15	N	45	43	10	30	10
44	10044-S15	N	46	44	10	30	10
45	10045-S15	N	47	45	10	30	10
46	10046-S15	N	48	46	10	30	10
47	10047-S15	N	49	47	10	30	10
48	10048-S15	N	50	48	10	30	10
49	10049-S15	N	51	49	10	30	10
50	10050-S15	N	52	50	10	30	12
52	10052-S15	N	54	52	10	40	12
54	10054-S15	N	56	54	10	40	12
56	10056-S15	N	58	56	10	40	12
58	10058-S15	N	60	58	10	40	12
60	10060-S15	N	62	60	10	40	12
62	10062-S15	N	64	62	10	50	12
64	10064-S15	N	66	64	10	50	12
66	10066-S15	N	68	66	10	50	12
68	10068-S15	N	70	68	10	50	12
70	10070-S15	N	72	70	10	50	12
72	10072-S15	L	74	72	-	-	12
75	10075-S15	L	77	75	-	-	12
76	10076-S15	L	78	76	-	-	12
80	10080-S15	L	82	80	-	-	12
85	10085-S15	L	87	85	-	-	12
90	10090-S15	L	92	90	-	-	12
95	10095-S15	L	97	95	-	-	12
100	10100-S15	L	102	100	-	-	12
110	10110-S15	L	112	110	-	-	12
114	10114-S15	L	116	114	-	-	12
120	10120-S15	L	122	120	-	-	12
127	10127-S15	L	129	127	-	-	12

Typ N



Typ L



CYLINDRISKA KUGGHJUL

Modul 1,5

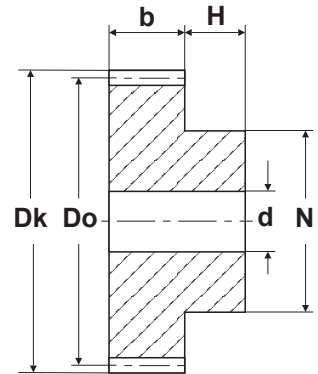
Material

Stål SS EN 10083-1 - C45E (1.1191)

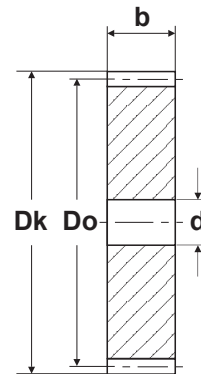


KUGGBREDD b = 17 mm							
Kugg	Artikelnr	Typ	dk	do	H	n	d
12	15012-S17	N	21,0	18,0	13	14	8
13	15013-S17	N	22,5	19,5	13	15	8
14	15014-S17	N	24,0	21,0	13	17	8
15	15015-S17	N	25,5	22,5	13	18	8
16	15016-S17	N	27,0	24,0	13	19	8
17	15017-S17	N	28,5	25,5	13	20	8
18	15018-S17	N	30,0	27,0	13	20	8
19	15019-S17	N	31,5	28,5	13	20	8
20	15020-S17	N	33,0	30,0	13	25	8
21	15021-S17	N	34,5	31,5	13	25	10
22	15022-S17	N	36,0	33,0	13	25	10
23	15023-S17	N	37,5	34,5	13	25	10
24	15024-S17	N	39,0	36,0	13	25	10
25	15025-S17	N	40,5	37,5	13	25	10
26	15026-S17	N	42,0	39,0	13	30	12
27	15027-S17	N	43,5	40,5	13	30	12
28	15028-S17	N	45,0	42,0	13	30	12
29	15029-S17	N	46,5	43,5	13	30	12
30	15030-S17	N	48,0	45,0	13	30	12
31	15031-S17	N	49,5	46,5	13	35	12
32	15032-S17	N	51,0	48,0	13	35	12
33	15033-S17	N	52,5	49,5	13	35	12
34	15034-S17	N	54,0	51,0	13	35	12
35	15035-S17	N	55,5	52,5	13	35	12
36	15036-S17	N	57,0	54,0	13	35	12
37	15037-S17	N	58,5	55,5	13	40	12
38	15038-S17	N	60,0	57,0	13	40	12
39	15039-S17	N	61,5	58,5	13	40	12
40	15040-S17	N	63,0	60,0	13	40	12
41	15041-S17	N	64,5	61,5	13	40	12
42	15042-S17	N	66,0	63,0	13	50	12
43	15043-S17	N	67,5	64,5	13	50	12
44	15044-S17	N	69,0	66,0	13	50	12
45	15045-S17	N	70,5	67,5	13	50	12
46	15046-S17	N	72,0	69,0	13	50	14
47	15047-S17	N	73,5	70,5	13	50	14
48	15048-S17	N	75,0	72,0	13	50	14
49	15049-S17	N	76,5	73,5	13	50	14
50	15050-S17	N	78,0	75,0	13	50	14
52	15052-S17	N	81,0	78,0	13	60	14
54	15054-S17	N	84,0	81,0	13	60	14
56	15056-S17	N	87,0	84,0	13	60	16
57	15057-S17	N	88,5	85,5	13	60	16
58	15058-S17	N	90,0	87,0	13	60	16
60	15060-S17	N	93,0	90,0	13	60	16
62	15062-S17	N	96,0	93,0	13	70	16
64	15064-S17	N	99,0	96,0	13	70	16
66	15066-S17	N	102,0	99,0	13	70	16
68	15068-S17	N	105,0	102,0	13	70	16
70	15070-S17	N	108,0	105,0	13	70	16
72	15072-S17	L	111,0	108,0	-	-	16
76	15076-S17	L	117,0	114,0	-	-	16
80	15080-S17	L	123,0	120,0	-	-	16
85	15085-S17	L	130,5	127,5	-	-	16
90	15090-S17	L	138,0	135,0	-	-	16
95	15095-S17	L	145,5	142,5	-	-	16
100	15100-S17	L	153,0	150,0	-	-	16
110	15110-S17	L	168,0	165,0	-	-	16
114	15114-S17	L	174,0	171,0	-	-	16
120	15120-S17	L	183,0	180,0	-	-	16
127	15127-S17	L	193,5	190,5	-	-	16

Typ N



Typ L



CYLINDRISKA KUGGHJUL

Modul 2

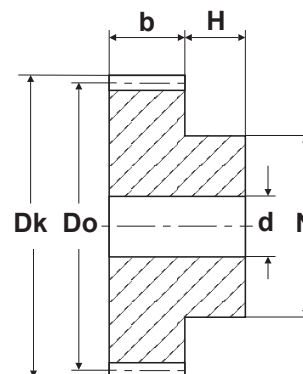
Material

Stål SS EN 10083-1 - C45E (1.1191)

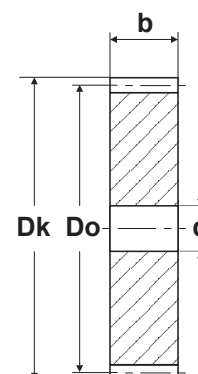


KUGGBREDD b = 20 mm							
Kugg	Artikelnr	Typ	dk	do	H	n	d
12	20012-S20	N	28	24	15	18	10
13	20013-S20	N	30	26	15	20	10
14	20014-S20	N	32	28	15	22	10
15	20015-S20	N	34	30	15	24	10
16	20016-S20	N	36	32	15	25	10
17	20017-S20	N	38	34	15	25	10
18	20018-S20	N	40	36	15	25	10
19	20019-S20	N	42	38	15	25	10
20	20020-S20	N	44	40	15	30	10
21	20021-S20	N	46	42	15	30	12
22	20022-S20	N	48	44	15	30	12
23	20023-S20	N	50	46	15	30	12
24	20024-S20	N	52	48	15	35	12
25	20025-S20	N	54	50	15	35	12
26	20026-S20	N	56	52	15	40	12
27	20027-S20	N	58	54	15	40	12
28	20028-S20	N	60	56	15	40	12
29	20029-S20	N	62	58	15	40	14
30	20030-S20	N	64	60	15	40	14
31	20031-S20	N	66	62	15	45	14
32	20032-S20	N	68	64	15	45	14
33	20033-S20	N	70	66	15	45	14
34	20034-S20	N	72	68	15	45	14
35	20035-S20	N	74	70	15	45	14
36	20036-S20	N	76	72	15	45	14
37	20037-S20	N	78	74	15	50	14
38	20038-S20	N	80	76	15	50	14
39	20039-S20	N	82	78	15	50	14
40	20040-S20	N	84	80	15	50	14
41	20041-S20	N	86	82	15	55	16
42	20042-S20	N	88	84	15	55	16
43	20043-S20	N	90	86	15	55	16
44	20044-S20	N	92	88	15	60	16
45	20045-S20	N	94	90	15	60	16
46	20046-S20	N	96	92	15	60	16
47	20047-S20	N	98	94	15	70	16
48	20048-S20	N	100	96	15	70	16
49	20049-S20	N	102	98	15	70	16
50	20050-S20	N	104	100	15	70	16
52	20052-S20	N	108	104	15	70	16
54	20054-S20	N	112	108	15	70	16
56	20056-S20	N	116	112	15	70	16
57	20057-S20	N	118	114	15	70	16
58	20058-S20	N	120	116	15	70	16
60	20060-S20	N	124	120	15	70	16
62	20062-S20	N	128	124	15	80	16
64	20064-S20	N	132	128	15	80	16
66	20066-S20	N	136	132	15	80	16
68	20068-S20	N	140	136	15	80	16
70	20070-S20	N	144	140	15	80	16
72	20072-S20	L	148	144	-	-	16
76	20076-S20	L	156	152	-	-	20
80	20080-S20	L	164	160	-	-	20
85	20085-S20	L	174	170	-	-	20
90	20090-S20	L	184	180	-	-	20
95	20095-S20	L	194	190	-	-	20
100	20100-S20	L	204	200	-	-	20
110	20110-S20	L	224	220	-	-	20
114	20114-S20	L	232	228	-	-	20
120	20120-S20	L	244	240	-	-	20
127	20127-S20	L	258	254	-	-	20

Typ N



Typ L



CYLINDRISKA KUGGHJUL

Modul 2,5

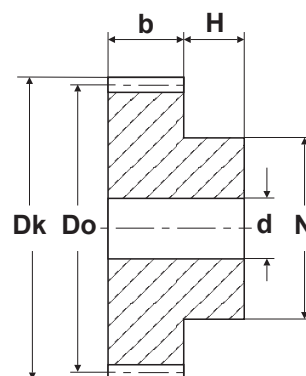
Material

Stål SS EN 10083-1 - C45E (1.1191)

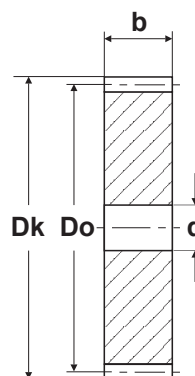


KUGGBREDD b = 25 mm							
Kugg	Artikelnr	Typ	dk	do	H	n	d
12	25012-S25	N	35,0	30,0	20	22	10
13	25013-S25	N	37,5	32,5	20	25	10
14	25014-S25	N	40,0	35,0	20	28	10
15	25015-S25	N	42,5	37,5	20	30	10
16	25016-S25	N	45,0	40,0	20	32	12
17	25017-S25	N	47,5	42,5	20	35	12
18	25018-S25	N	50,0	45,0	20	35	12
19	25019-S25	N	52,5	47,5	20	35	12
20	25020-S25	N	55,0	50,0	20	40	12
21	25021-S25	N	57,5	52,5	20	40	14
22	25022-S25	N	60,0	55,0	20	45	14
23	25023-S25	N	62,5	57,5	20	45	14
24	25024-S25	N	65,0	60,0	20	45	14
25	25025-S25	N	67,5	62,5	20	50	14
26	25026-S25	N	70,0	65,0	20	50	14
27	25027-S25	N	72,5	67,5	20	50	14
28	25028-S25	N	75,0	70,0	20	50	14
29	25029-S25	N	77,5	72,5	20	50	14
30	25030-S25	N	80,0	75,0	20	55	14
31	25031-S25	N	82,5	77,5	20	55	16
32	25032-S25	N	85,0	80,0	20	55	16
33	25033-S25	N	87,5	82,5	20	55	16
34	25034-S25	N	90,0	85,0	20	55	16
35	25035-S25	N	92,5	87,5	20	60	16
36	25036-S25	N	95,0	90,0	20	60	16
37	25037-S25	N	97,5	92,5	20	60	16
38	25038-S25	N	100,0	95,0	20	60	16
39	25039-S25	N	102,5	97,5	20	60	16
40	25040-S25	N	105,0	100,0	20	70	16
41	25041-S25	N	107,5	102,5	20	70	16
42	25042-S25	N	110,0	105,0	20	70	16
43	25043-S25	N	112,5	107,5	20	70	16
44	25044-S25	N	115,0	110,0	20	70	16
45	25045-S25	N	117,5	112,5	20	70	16
46	25046-S25	N	120,0	115,0	20	70	20
47	25047-S25	N	122,5	117,5	20	80	20
48	25048-S25	N	125,0	120,0	20	80	20
49	25049-S25	N	127,5	122,5	20	80	20
50	25050-S25	N	130,0	125,0	20	80	20
51	25051-S25	N	132,5	127,5	20	80	20
52	25052-S25	N	135,0	130,0	20	90	20
53	25053-S25	N	137,5	132,5	20	90	20
54	25054-S25	N	140,0	135,0	20	90	20
55	25055-S25	N	142,5	137,5	20	90	20
56	25056-S25	N	145,0	140,0	20	100	20
58	25058-S25	N	150,0	145,0	20	100	20
60	25060-S25	N	155,0	150,0	20	100	20
65	25065-S25	L	167,5	162,5	-	-	20
70	25070-S25	L	180,0	175,0	-	-	20
72	25072-S25	L	185,0	180,0	-	-	20
75	25075-S25	L	192,5	187,5	-	-	20
76	25076-S25	L	195,0	190,0	-	-	20
80	25080-S25	L	205,0	200,0	-	-	25
85	25085-S25	L	217,5	212,5	-	-	25
90	25090-S25	L	230,0	225,0	-	-	25
95	25095-S25	L	242,5	237,5	-	-	25
100	25100-S25	L	255,0	250,0	-	-	25
110	25110-S25	L	280,0	275,0	-	-	25
114	25114-S25	L	290,0	285,0	-	-	25
120	25120-S25	L	305,0	300,0	-	-	25
127	25127-S25	L	322,5	317,5	-	-	25

Typ N



Typ L



CYLINDRISKA KUGGHJUL

Modul 3

Material

Stål SS EN 10083-1 - C45E (1.1191)

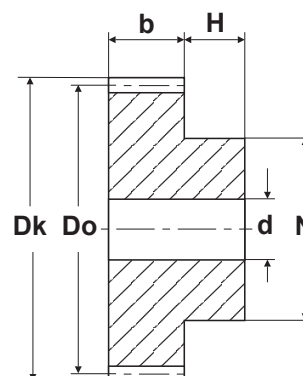


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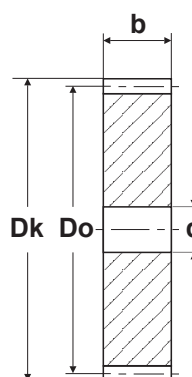
KUGGBREDD b = 25 mm

Kugg	Artikelnr	Typ	dk	do	H	n	d
12	30012-S30	N	42	36	20	27	12
13	30013-S30	N	45	39	20	30	12
14	30014-S30	N	48	42	20	33	12
15	30015-S30	N	51	45	20	35	12
16	30016-S30	N	54	48	20	38	14
17	30017-S30	N	57	51	20	42	14
18	30018-S30	N	60	54	20	45	14
19	30019-S30	N	63	57	20	45	14
20	30020-S30	N	66	60	20	45	14
21	30021-S30	N	69	63	20	45	16
22	30022-S30	N	72	66	20	50	16
23	30023-S30	N	75	69	20	50	16
24	30024-S30	N	78	72	20	50	16
25	30025-S30	N	81	75	20	60	16
26	30026-S30	N	84	78	20	60	16
27	30027-S30	N	87	81	20	60	16
28	30028-S30	N	90	84	20	60	16
29	30029-S30	N	93	87	20	60	16
30	30030-S30	N	96	90	20	60	16
31	30031-S30	N	99	93	20	60	16
32	30032-S30	N	102	96	20	70	16
33	30033-S30	N	105	99	20	70	16
34	30034-S30	N	108	102	20	70	16
35	30035-S30	N	111	105	20	70	16
36	30036-S30	N	114	108	20	70	20
37	30037-S30	N	117	111	20	70	20
38	30038-S30	N	120	114	20	80	20
39	30039-S30	N	123	117	20	80	20
40	30040-S30	N	126	120	20	80	20
41	30041-S30	N	129	123	20	80	20
42	30042-S30	N	132	126	20	80	20
43	30043-S30	N	135	129	20	80	20
44	30044-S30	N	138	132	20	90	20
45	30045-S30	N	141	135	20	90	20
46	30046-S30	N	144	138	20	90	20
47	30047-S30	N	147	141	20	100	20
48	30048-S30	N	150	144	20	100	20
50	30050-S30	L	156	150	-	-	20
52	30052-S30	L	162	156	-	-	20
54	30054-S30	N	168	162	20	110	25
55	30055-S30	L	171	165	-	-	20
56	30056-S30	N	174	168	20	120	25
57	30057-S30	L	177	171	-	-	20
60	30060-S30	L	186	180	-	-	20
65	30065-S30	L	201	195	-	-	20
70	30070-S30	L	216	210	-	-	25
72	30072-S30	L	222	216	-	-	25
75	30075-S30	L	231	225	-	-	25
76	30076-S30	L	234	228	-	-	25
80	30080-S30	L	246	240	-	-	25
85	30085-S30	L	261	255	-	-	25
90	30090-S30	L	276	270	-	-	25
95	30095-S30	L	291	285	-	-	25
100	30100-S30	L	306	300	-	-	25
110	30110-S30	L	336	320	-	-	25
114	30114-S30	L	348	342	-	-	30
120	30120-S30	L	366	360	-	-	30
127	30127-S30	L	387	381	-	-	30

Typ N



Typ L



CYLINDRISKA KUGGHJUL

Modul 4

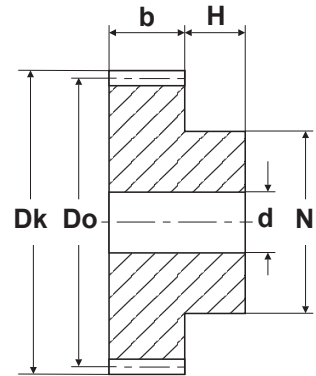
Material

Stål SS EN 10083-1 - C45E (1.1191)

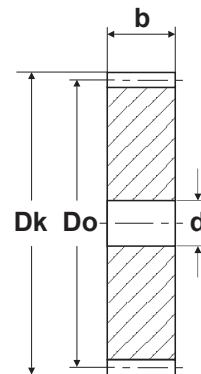


KUGGBREDD b = 40 mm							
Kugg	Artikelnr	Typ	dk	do	H	n	d
12	40012-S40	N	56	48	20	35	14
13	40013-S40	N	60	52	20	40	14
14	40014-S40	N	64	56	20	45	14
15	40015-S40	N	68	60	20	45	14
16	40016-S40	N	72	64	20	50	16
17	40017-S40	N	76	68	20	50	16
18	40018-S40	N	80	72	20	50	16
19	40019-S40	N	84	76	20	60	16
20	40020-S40	N	88	80	20	60	16
21	40021-S40	N	92	84	20	70	16
22	40022-S40	N	96	88	20	70	16
23	40023-S40	N	100	92	20	75	20
24	40024-S40	N	104	96	20	75	20
25	40025-S40	N	108	100	20	75	20
26	40026-S40	N	112	104	20	75	20
27	40027-S40	N	116	108	20	75	20
28	40028-S40	N	120	112	20	75	20
29	40029-S40	N	124	116	20	75	20
30	40030-S40	N	128	120	20	75	20
31	40031-S40	N	132	124	20	80	20
32	40032-S40	N	136	128	20	80	20
33	40033-S40	N	140	132	20	80	20
34	40034-S40	N	144	136	20	80	20
35	40035-S40	N	148	140	20	80	20
36	40036-S40	N	152	144	20	80	25
38	40038-S40	L	160	152	-	-	25
40	40040-S40	L	168	160	-	-	25
42	40042-S40	N	176	168	20	100	30
45	40045-S40	L	188	180	-	-	25
48	40048-S40	L	200	192	-	-	25
50	40050-S40	L	208	200	-	-	25
52	40052-S40	L	216	208	-	-	25
54	40054-S40	N	224	216	20	120	30
55	40055-S40	L	228	220	-	-	25
56	40056-S40	N	232	224	20	130	30
57	40057-S40	L	236	228	-	-	25
60	40060-S40	L	248	240	-	-	25
64	40064-S40	N	264	256	20	140	40
65	40065-S40	L	268	260	-	-	25
70	40070-S40	L	288	280	-	-	25
72	40072-S40	N	296	288	20	140	40
75	40075-S40	L	308	300	-	-	25
76	40076-S40	L	312	304	-	-	30
80	40080-S40	L	328	320	-	-	30
85	40085-S40	L	348	340	-	-	30
90	40090-S40	L	368	360	-	-	30
95	40095-S40	L	388	380	-	-	30
100	40100-S40	L	408	400	-	-	30
110	40110-S40	L	448	440	-	-	30
114	40114-S40	L	464	456	-	-	30

Typ N



Typ L



CYLINDRISKA KUGGHJUL

Modul 5

Material

Stål SS EN 10083-1 - C45E (1.1191)

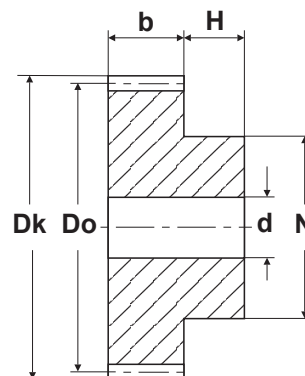


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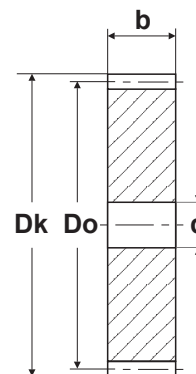
KUGGBREDD b = 50 mm

Kugg	Artikelnr	Typ	dk	do	n	d	
12	50012-S50	N	70	60	25	45	20
13	50013-S50	N	75	65	25	50	20
14	50014-S50	N	80	70	25	55	20
15	50015-S50	N	85	75	25	60	20
16	50016-S50	N	90	80	25	65	20
17	50017-S50	N	95	85	25	70	20
18	50018-S50	N	100	90	25	70	20
19	50019-S50	N	105	95	25	70	20
20	50020-S50	N	110	100	25	80	20
21	50021-S50	N	115	105	25	80	20
22	50022-S50	N	120	110	25	80	20
23	50023-S50	N	125	115	25	90	20
24	50024-S50	N	130	120	25	90	20
25	50025-S50	N	135	125	25	90	20
26	50026-S50	N	140	130	25	100	20
27	50027-S50	N	145	135	25	100	20
28	50028-S50	N	150	140	25	100	25
29	50029-S50	N	155	145	25	110	25
30	50030-S50	N	160	150	25	110	25
32	50032-S50	L	170	160	-	-	25
35	50035-S50	L	185	175	-	-	25
36	50036-S50	N	190	180	20	105	30
38	50038-S50	L	200	190	-	-	25
40	50040-S50	L	210	200	-	-	25
45	50045-S50	L	235	225	-	-	25
48	50048-S50	L	250	240	-	-	25
50	50050-S50	L	260	250	-	-	30
52	50052-S50	L	270	260	-	-	30
54	50054-S50	N	280	270	20	130	30
55	50055-S50	L	285	275	-	-	30
57	50057-S50	L	295	285	-	-	30
60	50060-S50	L	310	300	-	-	30
65	50065-S50	L	335	325	-	-	30
70	50070-S50	L	360	350	-	-	30
75	50075-S50	L	385	375	-	-	30
76	50076-S50	L	390	380	-	-	30
80	50080-S50	L	410	400	-	-	30
85	50085-S50	L	435	425	-	-	30
90	50090-S50	L	460	450	-	-	30
95	50095-S50	L	485	475	-	-	30
100	50100-S50	L	510	500	-	-	30
110	50110-S50	L	560	550	-	-	30
114	50114-S50	L	580	570	-	-	30

Typ N



Typ L



CYLINDRISKA KUGGHJUL

Modul 6

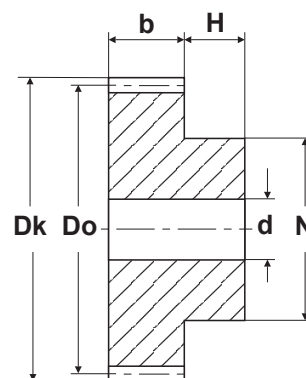
Material

Stål SS EN 10083-1 - C45E (1.1191)



KUGGBREDD $b = 15 \text{ mm}$							
Kugg	Artikelnr	Typ	dk	do	H	n	d
12	60012-S60	N	84	72	20	54	20
13	60013-S60	N	90	78	20	60	20
15	60015-S60	N	102	90	20	70	20
16	60016-S60	N	108	95	20	75	20
18	60018-S60	N	120	108	20	80	20
20	60020-S60	N	132	120	20	90	20
24	60024-S60	N	156	144	20	110	25
25	60025-S60	N	162	150	20	110	25
28	60028-S60	L	180	168	-	-	25
30	60030-S60	L	192	180	-	-	25
32	60032-S60	L	204	192	-	-	25
35	60035-S60	L	222	210	-	-	25
38	60038-S60	L	240	228	-	-	25
40	60040-S60	L	252	240	-	-	25

Typ N



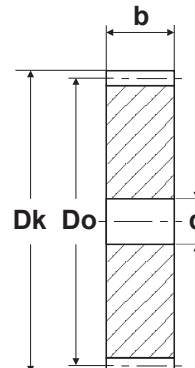
Modul 8

Material

Stål SS EN 10083-1 - C45E (1.1191)

KUGGBREDD $b = 15 \text{ mm}$							
Kugg	Artikelnr	Typ	dk	do	H	n	d
15	80015-S80	N	136	120	30	90	25
18	80018-S80	N	160	144	30	100	25
20	80020-S80	N	176	160	30	120	30
24	80024-S80	N	208	192	30	150	30
25	80025-S80	N	216	200	30	150	30
30	80030-S80	N	256	240	30	190	30

Typ L



CYLINDRISKA KUGGHJUL

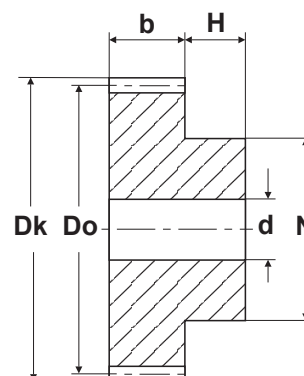
Rostfritt stål, modul 1,0-4,0

Material

Rostfritt stål SS EN 10088 -3 - 1.4305



Typ N



Kugg	Artikelnr	Modul	b	dk	do	H	n	d	Mv (nm)
12	10012-R08	1,0	8	14,0	12,0	8	9	5	0,15
15	10015-R08	1,0	8	17,0	15,0	8	12	6	0,23
18	10018-R08	1,0	8	20,0	18,0	8	15	8	0,36
20	10020-R08	1,0	8	22,0	20,0	8	17	8	0,48
25	10025-R08	1,0	8	27,0	25,0	8	22	8	0,70
30	10030-R08	1,0	8	32,0	30,0	8	25	8	1,00
35	10035-R08	1,0	8	37,0	35,0	8	28	10	1,30
40	10040-R08	1,0	8	42,0	40,0	8	30	10	1,70
50	10050-R08	1,0	8	52,0	50,0	8	35	10	2,70
60	10060-R08	1,0	8	62,0	60,0	8	50	10	3,60
12	15012-R12	1,5	12	21,0	18,0	12	13	6	0,50
15	15015-R12	1,5	12	25,5	22,5	12	18	8	0,90
18	15018-R12	1,5	12	30,0	27,0	12	22	8	1,30
20	15020-R12	1,5	12	33,0	30,0	12	25	8	1,70
25	15025-R12	1,5	12	40,5	37,5	12	30	10	2,60
30	15030-R12	1,5	12	48,0	45,0	12	35	10	3,50
35	15035-R12	1,5	12	55,5	52,5	12	40	10	4,60
40	15040-R12	1,5	12	63,0	60,0	12	45	12	5,80
50	15050-R12	1,5	12	78,0	75,0	12	55	12	9,20
60	15060-R12	1,5	12	93,0	90,0	12	60	15	13,10
12	20012-R16	2,0	16	28,0	24,0	14	18	10	1,30
15	20015-R16	2,0	16	34,0	30,0	14	24	12	2,10
18	20018-R16	2,0	16	40,0	36,0	14	30	12	3,20
20	20020-R16	2,0	16	44,0	40,0	14	33	15	4,00
25	20025-R16	2,0	16	54,0	50,0	14	43	15	6,30
30	20030-R16	2,0	16	64,0	60,0	14	50	15	8,60
35	20035-R16	2,0	16	74,0	70,0	14	50	20	11,40
40	20040-R16	2,0	16	84,0	80,0	14	60	20	14,60
50	20050-R16	2,0	16	104,0	100,0	14	80	20	22,20
12	25012-R20	2,5	20	35,0	30,0	17	23	10	2,20
15	25015-R20	2,5	20	42,5	37,5	17	30	15	4,00
18	25018-R20	2,5	20	50,0	45,0	17	35	15	6,20
20	25020-R20	2,5	20	55,0	50,0	17	40	15	7,60
25	25025-R20	2,5	20	67,5	62,5	17	55	15	11,70
30	25030-R20	2,5	20	80,0	75,0	17	65	15	16,50
35	25035-R20	2,5	20	92,5	87,5	17	70	20	22,80
40	25040-R20	2,5	20	105,0	100,0	17	80	20	28,70
50	25050-R20	2,5	20	130,0	125,0	17	100	20	44,80
12	30012-R24	3,0	24	42,0	36,0	19	25	15	4,90
15	30015-R24	3,0	24	51,0	45,0	19	35	15	7,30
18	30018-R24	3,0	24	60,0	54,0	19	45	15	11,10
20	30020-R24	3,0	24	66,0	60,0	19	45	15	13,30
25	30025-R24	3,0	24	81,0	75,0	19	60	15	20,40
30	30030-R24	3,0	24	96,0	90,0	19	75	20	30,10
40	30040-R24	3,0	24	126,0	120,0	19	100	20	52,40
12	40012-R32	4,0	32	56,0	48,0	25	35	20	12,20
15	40015-R32	4,0	32	68,0	60,0	23	45	20	16,80
18	40018-R32	4,0	32	80,0	72,0	23	55	20	24,60
20	40020-R32	4,0	32	88,0	80,0	23	65	20	30,20
25	40025-R32	4,0	32	108,0	100,0	23	75	20	46,20
30	40030-R32	4,0	32	128,0	120,0	23	80	20	65,80
40	40040-R32	4,0	32	168,0	160,0	23	100	20	115,40

CYLINDRISKA KUGGHJUL

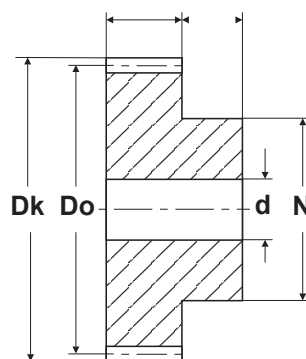
Modul 0,5

Material

POM

KUGGBREDD = b

Kugg	Artikelnr	b	Dk	Do	H	N	d
12	05012N	3	7,0	6,0	4	4,6	2
14	05014-N04	4	8,0	7,0	4	5,0	2
15	05015-N04	4	8,5	7,5	4	6,0	3
16	05016-N04	4	9,0	8,0	4	6,0	3
18	05018N	3	10,0	9,0	4	6,0	2
20	05020-N04	4	11,0	10,0	4	8,0	3
21	05021N	3	11,5	10,5	4	7,0	2
22	05022N	3	12,0	11,0	4	7,0	2
23	05023N	3	12,5	11,5	4	8,0	2
24	05024-N04	4	13,0	12,0	4	8,0	3
25	05025N	3	3,5	12,5	4	8,0	2
28	05028-N04	4	15,0	14,0	4	10,0	3
30	05030-N04	4	16,0	15,0	4	10,0	3
35	05035-N04	4	18,5	17,5	4	12,0	4
38	05038-N04	4	20,0	19,0	4	12,0	4
40	05040N	3	21,0	20,0	5	8,0	3
45	05045-N04	4	23,5	22,5	4	12,0	4
50	05050-N04	4	26,0	25,0	4	15,0	4
56	05056-N0	4	29,0	28,0	4	15,0	4
57	05057N	3	29,5	28,5	5	20,0	3
60	05060-N04	4	31,0	30,0	5	20,0	4
65	05065-N04	4	33,5	32,5	5	20,0	5
70	05070N	3	36,0	35,0	5	20,0	3
75	05075-N04	4	38,5	37,5	5	20,0	5
76	05076N	3	39,0	38,0	5	20,0	3
80	05080-N04	4	41,0	40,0	5	20,0	5
90	05090N	3	46,0	45,0	5	20,0	3
95	05095N	3	48,5	47,5	5	20,0	3
100	050100-N04	4	51,0	50,0	5	25,0	5

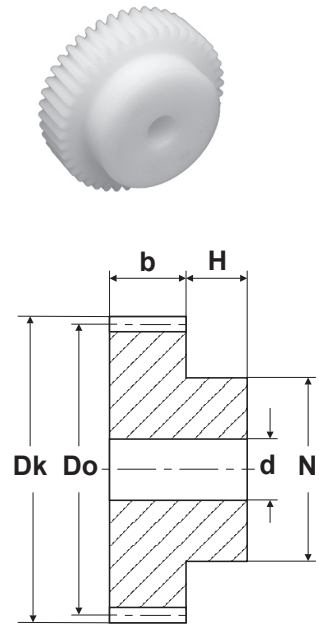


CYLINDRISKA KUGGHJUL

Modul 1

Material
POM

Kugg	Artikelnr	KUGGBREDD b = 8 mm				
		dk	do	H	n	d
12	10012-N08	14	12	10	9	5
15	10015-N08	17	15	10	12	5
16	10016-N08	18	16	10	12	5
18	10018-N08	20	18	10	15	6
20	10020-N08	22	20	8	15	6
21	10021-N08	23	21	10	15	6
23	10023-N08	25	23	10	18	6
24	10024-N08	26	24	10	18	6
25	10025-N08	27	25	10	20	6
30	10030-N08	32	30	8	25	5
32	10032-N08	34	32	10	25	8
35	10035-N08	37	35	10	25	8
36	10036-N08	38	36	8	25	5
38	10038-N08	40	38	10	25	8
40	10040-N08	42	40	10	30	8
45	10045-N08	47	45	10	30	8
48	10048-N08	50	48	10	30	8
50	10050-N08	52	50	10	35	10
55	10055-N08	57	55	10	35	10
60	10060-N08	62	60	10	40	10
70	10070-N08	72	70	10	40	10
80	10080-N08	82	80	10	40	10
90	10090-N08	92	90	10	40	10
100	10100-N08	102	100	10	40	10
120	10120-N08	122	120	10	40	10



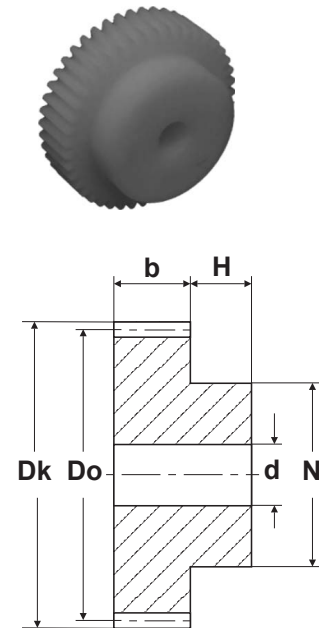
CYLINDRISKA KUGGHJUL

Modul 1

Material

Glasfiberfylld nylon PA 6. Färg grå.

KUGGBREDD b = 15 mm						
Kugg	Artikelnr	Dk	Do	H	N	d
12	10012-N15-1	14	12	10	9	4
13	10013-N15-1	15	13	10	10	4
14	10014-N15-1	16	14	10	10	4
15	10015-N15-1	17	15	10	10	4
16	10016-N15-1	18	16	10	13	5
17	10017-N15-1	19	17	10	14	5
18	10018-N15-1	20	18	10	14	5
19	10019-N15-1	21	19	10	14	5
20	10020-N15-1	22	20	10	16	5
21	10021-N15-1	23	21	10	16	5
23	10023-N15-1	25	23	10	18	6
24	10024-N15-1	26	24	10	20	6
25	10025-N15-1	27	25	10	20	6
26	10026-N15-1	28	26	10	22	6
28	10028-N15-1	30	28	10	22	6
30	10030-N15-1	32	30	10	25	6
32	10032-N15-1	34	32	10	25	6
34	10034-N15-1	36	34	10	30	8
35	10035-N15-1	37	35	10	30	8
36	10036-N15-1	38	36	10	30	8
38	10038-N15-1	40	38	10	30	8
40	10040-N15-1	42	40	10	30	8
42	10042-N15-1	44	42	10	35	10
44	10044-N15-1	46	44	10	35	10
45	10045-N15-1	47	45	10	35	10
46	10046-N15-1	48	46	10	35	10
48	10048-N15-1	50	48	10	35	10
50	10050-N15-1	52	50	10	35	10
52	10052-N15-1	54	52	10	35	14
55	10055-N15-1	57	55	10	35	14
60	10060-N15-1	62	60	10	40	14
65	10065-N15-1	67	65	10	40	20
70	10070-N15-1	72	70	10	40	20
75	10075-N15-1	77	75	10	50	20
80	10080-N15-1	82	80	10	50	20
85	10085-N15-1	87	85	10	50	20
90	10090-N15-1	92	90	10	50	20
95	10095-N15-1	97	95	10	50	20
100	10100-N15-1	102	100	10	50	20
110	10110-N15-1	112	110	10	50	20
120	10120-N15-1	122	120	10	50	20



1

CYLINDRISKA KUGGHJUL

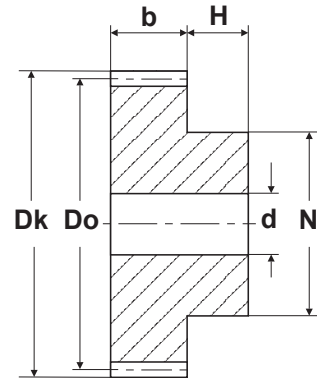
Modul 1,5

Material

Glasfiberfylld nylon PA 6. Färg grå.

KUGGBREDD $b = 17 \text{ mm}$

Kugg	Artikelnr	Dk	Do	H	N	d
12	15012-N17-1	21,0	18,0	13	14	5
13	15013-N17-1	22,5	19,5	13	16	5
14	15014-N17-1	24,0	21,0	13	16	5
16	15016-N17-1	27,0	24,0	13	18	5
17	15017-N17-1	28,5	25,5	13	20	6
18	15018-N17-1	30,0	27,0	13	20	6
19	15019-N17-1	31,5	28,5	13	20	8
20	15020-N17-1	33,0	30,0	13	25	8
21	15021-N17-1	34,5	31,5	13	25	8
22	15022-N17-1	36,0	33,0	13	28	8
23	15023-N17-1	37,5	34,5	13	28	8
24	15024-N17-1	39,0	36,0	13	25	9
25	15025-N17-1	39,0	36,0	13	28	8
26	15026-N17-1	42,0	39,0	13	30	8
28	15028-N17-1	45,0	42,0	13	30	8
30	15030-N17-1	48,0	45,0	13	35	12
32	15032-N17-1	48,0	35,0	13	35	12
35	15035-N17-1	55,5	52,5	13	35	12
38	15038-N17-1	60,0	57,0	13	35	16
40	15040-N17-1	63,0	60,0	13	40	16
42	15042-N17-1	66,0	63,0	13	45	16
45	15045-N17-1	70,5	67,5	13	45	16
48	15048-N17-1	75,0	72,0	13	45	16
50	15050-N17-1	78,0	75,0	13	45	16
52	15052-N17-1	81,0	78,0	13	50	20
55	15055-N17-1	85,5	82,5	13	50	20
60	15060-N17-1	93,0	90,0	13	55	20
65	15065-N17-1	100,5	97,5	13	60	20
70	15070-N17-1	108,0	105,0	13	60	20
75	15075-N17-1	115,5	112,5	13	60	20
80	15080-N17-1	123,0	120,0	13	60	20
85	15085-N17-1	130,5	127,5	13	60	20
90	15090-N17-1	138,0	135,0	13	60	20



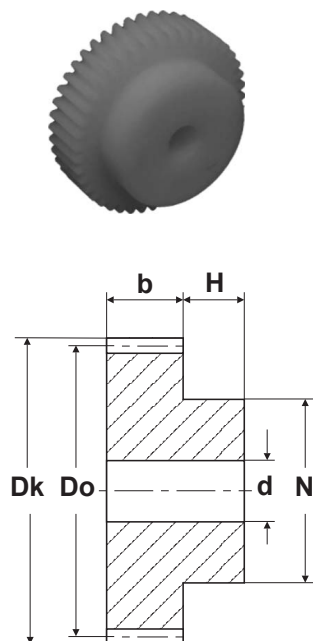
CYLINDRISKA KUGGHJUL

Modul 2

Material

Glasfiberfylld nylon PA 6. Färg grå.

KUGGBREDD b = 20 mm						
Kugg	Artikelnr	Dk	Do	H	N	d
12	20012-N20-1	28	24	15	18	8
13	20013-N20-1	30	26	15	18	8
14	20014-N20-1	32	28	15	20	8
15	20015-N20-1	34	30	15	22	8
16	20016-N20-1	36	32	15	25	8
17	20017-N20-1	38	34	15	25	8
18	20018-N20-1	40	36	15	30	10
19	20019-N20-1	42	38	15	30	10
20	20020-N20-1	44	40	15	30	10
21	20021-N20-1	46	42	15	30	10
22	20022-N20-1	48	44	15	30	10
23	20023-N20-1	50	46	15	35	10
24	20024-N20-1	52	48	15	35	10
25	20025-N20-1	54	50	15	35	10
30	20030-N20-1	64	60	15	40	14
32	20032-N20-1	68	64	15	45	16
35	20035-N20-1	74	70	15	45	16
40	20040-N20-1	84	80	15	50	16
42	20042-N20-1	88	84	15	50	16
45	20045-N20-1	94	90	15	50	16
48	20048-N20-1	100	96	15	60	16
50	20050-N20-1	104	100	15	60	20
52	20052-N20-1	108	104	15	60	20
55	20055-N20-1	114	110	15	60	20
60	20060-N20-1	124	120	15	60	20
62	20062-N20-1	128	124	15	60	20
65	20065-N20-1	134	130	15	60	20
70	20070-N20-1	144	140	15	60	20
75	20075-N20-1	154	150	15	60	20
80	20080-N20-1	164	160	15	60	20
85	20085-N20-1	174	170	15	60	20
90	20090-N20-1	184	180	15	60	20
114	20114-N20-1	232	228	-	-	16



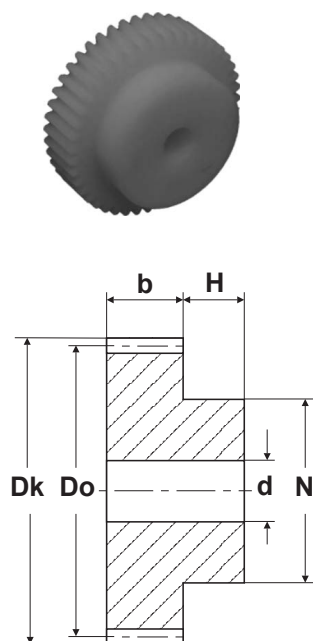
CYLINDRISKA KUGGHJUL

Modul 2,5

Material

Glasfiberfylld nylon PA 6. Färg grå.

KUGGBREDD b = 25 mm						
Kugg	Artikelnr	Dk	Do	H	N	d
12	25012-N25-1	35,0	30,0	15	22	8
14	25014-N25-1	40,0	35,0	15	22	8
15	25015-N25-1	42,5	37,5	15	30	10
16	25016-N25-1	45,0	40,0	15	30	10
17	25017-N25-1	47,5	42,5	15	30	10
18	25018-N25-1	50,0	45,0	15	35	10
20	25020-N25-1	55,0	50,0	15	35	10
21	25021-N25-1	57,5	52,5	15	35	10
22	25022-N25-1	60,0	55,0	15	40	16
23	25023-N25-1	62,5	57,5	15	40	16
24	25024-N25-1	65,0	60,0	15	40	16
25	25025-N25-1	67,5	62,5	15	40	16
28	25028-N25-1	75,0	70,0	15	40	16
30	25030-N25-1	80,0	75,0	15	45	16
32	25032-N25-1	85,0	80,0	15	50	16
35	25035-N25-1	92,5	87,5	15	50	16
38	25038-N25-1	100,0	95,0	15	50	18
40	25040-N25-1	105,0	100,0	15	50	18
42	25042-N25-1	110,0	102,5	15	60	18
45	25045-N25-1	117,5	112,5	15	60	18
50	25050-N25-1	130,0	125,0	15	60	20
55	25055-N25-1	142,5	137,5	15	60	20
60	25060-N25-1	155,0	150,0	15	60	20



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CYLINDRISKA KUGGHJUL

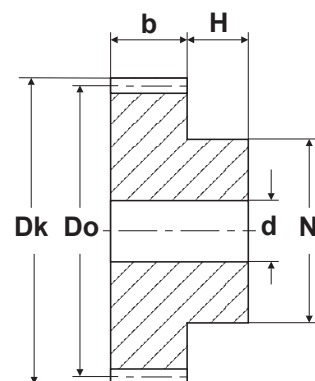
Modul 3

Material

Glasfiberfylld nylon PA 6. Färg grå.

KUGGBREDD $b = 30$ mm

Kugg	Artikelnr	Dk	Do	H	N	d
12	30012-N30-1	42	36	15	25	12
13	30013-N30-1	45	39	15	28	12
14	30014-N30-1	48	42	15	30	12
15	30015-N30-1	51	45	15	30	12
16	30016-N30-1	54	48	15	40	12
17	30017-N30-1	57	51	15	40	12
18	30018-N30-1	60	54	15	42	12
19	30019-N30-1	63	57	15	45	12
20	30020-N30-1	66	60	15	45	12
21	30021-N30-1	69	63	15	45	16
22	30022-N30-1	72	66	15	45	12
23	30023-N30-1	75	66	15	45	16
24	30024-N30-1	78	72	15	45	16
25	30025-N30-1	81	75	15	45	16
26	30026-N30-1	84	78	15	45	16
27	30027-N30-1	87	81	15	45	16
28	30028-N30-1	90	84	15	50	16
30	30030-N30-1	96	90	15	50	16
32	30032-N30-1	102	96	15	50	16
34	30034-N30-1	108	102	15	50	16
36	30036-N30-1	114	108	15	60	20
38	30038-N30-1	120	114	15	60	20
40	30040-N30-1	126	120	15	60	20
42	30042-N30-1	132	126	15	60	20
44	30044-N30-1	138	132	15	60	20
45	30045-N30-1	141	135	15	60	20
46	30046-N30-1	144	138	15	60	20
48	30048-N30-1	150	144	15	60	20
50	30050-N30-1	156	150	15	60	20
55	30055-N30-1	171	165	15	100	20
60	30060-N30-1	186	180	15	100	20



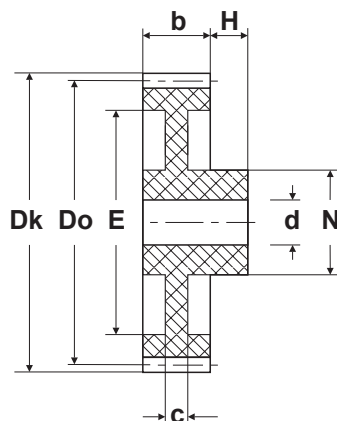
CYLINDRISKA KUGGHJUL

Modul 1 - formsprutade

Material

H = Hostaform

KUGGBREDD b = 9 mm								
Kugg	Artikelnr	dk	do	H	n	E	c	d
12	10012H	14	12	8	9	-	-	4
13	10013H	15	13	8	9	-	-	4
14	10014H	16	14	8	9	-	-	4
15	10015H	17	15	8	9	-	-	4
16	10016H	18	16	8	9	-	-	4
17	10017H	19	17	8	9	-	-	4
18	10018H	20	18	8	9	13,5	6,0	4
19	10019H	21	19	8	9	13,5	6,0	4
20	10020H	22	20	8	9	13,5	6,0	4
21	10021H	23	21	8	12	16,0	6,0	5
22	10022H	24	22	8	12	16,0	6,0	5
23	10023H	25	23	8	12	16,0	6,0	5
24	10024H	26	24	9	15	19,0	6,0	6
25	10025H	27	25	9	15	19,0	6,0	6
26	10026H	28	26	9	15	19,0	6,0	6
27	10027H	29	27	9	15	19,0	6,0	6
28	10028H	30	28	9	15	22,0	6,0	6
30	10030H	32	30	9	15	22,0	6,0	6
32	10032H	34	32	9	18	24,5	4,6	6
35	10035H	37	35	9	18	24,5	4,6	8
36	10036H	38	36	9	18	28,0	4,6	8
38	10038H	40	38	9	18	28,0	4,6	8
40	10040H	42	40	9	18	28,0	4,6	8
42	10042H	44	42	9	18	37,0	4,6	8
45	10045H	47	45	9	18	37,0	4,6	8
48	10048H	50	48	9	18	37,0	4,6	8
50	10050H	52	50	9	18	37,0	4,6	8
52	10052H	54	52	9	21	47,0	4,6	8
54	10054H	56	54	9	21	47,0	4,6	8
55	10055H	57	55	9	21	47,0	4,6	8
56	10056H	58	56	9	21	47,0	4,6	8
60	10060H	62	60	9	21	47,0	4,6	8
64	10064H	66	64	9	21	57,0	4,6	10
65	10065H	67	65	9	21	57,0	4,6	10
70	10070H	72	70	9	21	57,0	4,6	10
72	10072H	74	72	9	21	67,0	4,6	10
75	10075H	77	75	9	21	67,0	4,6	10
80	10080H	82	80	9	21	67,0	4,6	10
85	10085H	87	85	9	21	77,0	4,6	10
90	10090H	92	90	9	21	77,0	4,6	10



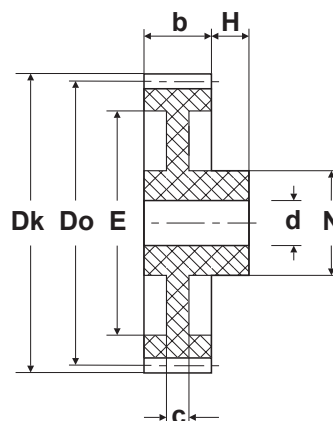
Modul 1,5 - formsprutade

Material

H = Hostaform



KUGGBREDD b = 12 mm								
Kugg	Artikelnr	dk	do	H	n	E	c	d
12	15012H	21,0	18,0	11	14	-	-	6
13	15013H	22,5	19,5	11	14	-	-	6
14	15014H	24,0	21,0	11	14	-	-	6
15	15015H	25,5	22,5	11	14	-	-	6
16	15016H	27,0	24,0	11	14	-	-	6
17	15017H	28,5	25,5	11	14	-	-	6
18	15018H	30,0	27,0	11	17	-	-	8
19	15019H	31,5	28,5	11	17	-	-	8
20	15020H	33,0	30,0	11	17	-	-	8
21	15021H	34,5	31,5	11	17	23	5	8
22	15022H	36,0	33,0	11	17	23	5	8
23	15023H	37,5	34,5	11	17	23	5	8
24	15024H	39,0	36,0	11	19	27	5	8
25	15025H	40,5	37,5	11	19	27	5	8
26	15026H	42,0	39,0	11	19	27	5	8
27	15027H	43,5	40,5	11	19	27	5	8
28	15028H	45,0	42,0	11	19	27	5	8
30	15030H	48,0	45,0	11	24	35	5	10
32	15032H	51,0	48,0	11	24	35	5	10
35	15035H	55,5	52,5	11	24	43	5	10
36	15036H	57,0	54,0	11	24	43	5	10
38	15038H	60,0	57,0	11	24	43	5	10
40	15040H	63,0	60,0	11	24	50	5	10
42	15042H	66,0	63,0	11	24	50	5	10
45	15045H	70,5	67,5	11	24	50	5	10
48	15048H	75,0	72,0	11	24	50	5	10
50	15050H	78,0	75,0	11	27	65	5	12
52	15052H	81,0	78,0	11	27	65	5	12
54	15054H	84,0	81,0	11	27	65	5	12
55	15055H	85,5	82,5	11	27	65	5	12
60	15060H	93,0	90,0	11	27	65	5	15



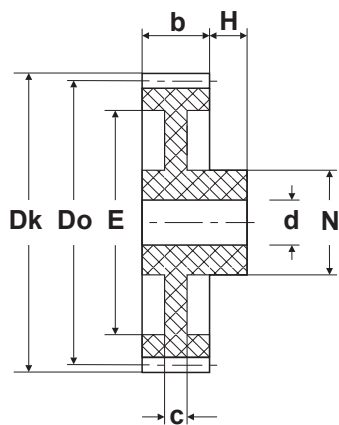
CYLINDRISKA KUGGHJUL

Modul 2 - formsprutade

Material

H = Hostaform

KUGGBREDD b = 15 mm								
Kugg	Artikelnr	dk	do	H	n	E	c	d
12	20012H	28	24	12	18,5	-	-	8
13	20013H	30	26	12	18,5	-	-	8
14	20014H	32	28	12	18,5	-	-	8
15	20015H	34	30	12	18,5	-	-	8
16	20016H	36	32	12	17,5	23	6	8
17	20017H	38	34	12	17,5	25	6	8
18	20018H	40	36	12	17,5	26	6	8
19	20019H	42	38	12	17,5	28	6	8
20	20020H	44	40	12	20,0	29	6	10
21	20021H	46	42	12	20,0	29	6	10
22	20022H	48	44	12	20,0	29	6	10
23	20023H	50	46	12	20,0	36	6	10
24	20024H	52	48	12	24,0	36	6	10
25	20025H	54	50	12	24,0	36	6	10
26	20026H	56	52	12	24,0	40	6	10
27	20027H	58	54	12	24,0	40	6	10
28	20028H	60	56	12	24,0	40	6	10
30	20030H	64	60	12	24,0	46	6	10
32	20032H	68	64	12	26,0	46	6	10
35	20035H	74	70	12	26,0	56	6	12
36	20036H	76	72	12	26,0	56	6	12
38	20038H	80	76	12	26,0	64	6	12
40	20040H	84	80	12	26,0	64	6	12
42	20042H	88	84	12	26,0	64	6	12



Modul 3 - formsprutade

Material

H = Hostaform



KUGGBREDD b = 19 mm								
Kugg	Artikelnr	dk	do	H	n	E	c	d
12	30012H	42	36	15	24	-	-	12
13	30013H	45	39	15	24	-	-	12
14	30014H	48	42	15	24	-	-	12
15	30015H	51	45	15	24	30	8	12
16	30016H	54	48	15	24	30	8	12
17	30017H	57	51	15	24	30	8	12
18	30018H	60	54	15	24	38	8	12
19	30019H	63	57	15	24	38	8	12
20	30020H	66	60	15	24	38	8	12
21	30021H	69	63	15	24	45	8	12
22	30022H	72	66	15	24	45	8	12
23	30023H	75	69	15	24	52	8	12
24	30024H	78	72	15	24	52	8	12
25	30025H	81	75	15	28	58	8	14
26	30026H	84	78	15	28	58	8	14
27	30027H	87	81	15	28	58	8	14
28	30028H	90	84	15	28	68	8	14
30	30030H	96	90	15	28	68	8	14

