

Withdrawal sleeves

Withdrawal sleeves are used for fastening double row spherical roller bearings with a tapered bore (K) onto cylindrical shafts. Sleeves are made of steel with a tensile strength of 400 to 600 MPa.

Main dimensions of withdrawal sleeves meet standard ISO 2982-2.

Designations of withdrawal sleeves and respective withdrawal nuts, which must be ordered separately, are listed in the tables provided.

Information on assignments of withdrawal sleeves to individual double row spherical roller bearings with a tapered bore are listed in the respective sections, dedicated to such bearings. Connecting dimensions for bearings with withdrawal sleeves ($d_{a \min}$, $D_{a \max}$, $r_{a \max}$) are identical to bearings without withdrawal sleeves and are listed in the respective tables of the publication.

Adapter and withdrawal sleeves ring nuts

Adapter and withdrawal sleeve nuts are used for fastening internal bearing rings onto adapter sleeves or directly onto the journal. Withdrawal nuts are used for removing double row spherical roller bearings with a tapered bore that are fastened by means of a withdrawal sleeve. Rings nuts are made of steel with a minimal tensile strength of 410 MPa.

The main dimensions of adapter and withdrawal nuts are specified in the tables provided and they meet standard ISO 2982-2. Adapter nuts are made in standard design (type KM) and specific design (type KMA) and are listed in the table section of the publication. Proceed according to table 12.13.2 when determining the front axial run out.

Table 12.13.2

Designation of nut size		Limit axial runout values of functional face	
over	up to	KM	KMA
		mm	
	10	0,04	0,025
10	20	0,05	0,03
20	25	0,05	0,03
25	30	0,06	0,04
30	40	0,06	0,05

Lock washers

The washers are used for fastening adapter ring nuts. They are made from steel with a minimal tensile strength of 274 MPa. The main dimensions of washers are specified in the tables provided and they meet standard ISO 2982.

Snap rings for bearings with a groove on the outer ring

Snap rings are used for simple axial fastening of bearings with groove on outer race (N) in hubs. Snap rings are made of spring steel. Main dimensions of snap rings meet standard ISO 464.

Snap rings are labelled with a number that expresses the outer bearing diameter D and a number that expresses the minimal width of the snap ring f , e.g. ring 52/1.02.

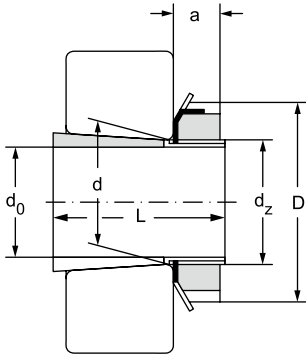
Trade labels are also used in practice to designate the type of ring R and the outer bearing diameter in mm, e.g. R52.

The tables list snap rings for N-style single row ball bearings, types 60, 62, 63, and 64.

Snap rings are, in rare circumstances, also used for bearings of different design groups. Their delivery must be negotiated with the supplier in advance. Snap rings are supplied individually.

Adapter sleeves d = 20 to 150 mm

d = 20 to 65 mm



Main dimensions						
d_0	d	d_z	D	L	a	
mm						
20	25	M25x1,5	38	26	8	
	25	M25x1,5	38	29	8	
	25	M25x1,5	38	29	10,5	
	25	M25x1,5	38	35	8	
25	30	M30x1,5	45	27	8	
	30	M30x1,5	45	31	8	
	30	M30x1,5	46	31	10,5	
	30	M30x1,5	45	38	8	
30	35	M35x1,5	52	29	9	
	35	M35x1,5	52	35	9	
	35	M35x1,5	52	35	11,5	
	35	M35x1,5	52	35	11,5	
	35	M35x1,5	52	43	9	
35	40	M40x1,5	58	31	10	
	40	M40x1,5	58	36	10	
	40	M40x1,5	59	36	13	
	40	M40x1,5	58	46	10	
	40	M40x1,5	58	46	13	
40	45	M45x1,5	65	33	11	
	45	M45x1,5	65	39	11	
	45	M45x1,5	65	39	13	
	45	M45x1,5	65	50	11	
45	50	M50x1,5	70	35	12	
	50	M50x1,5	70	42	12	
	50	M50x1,5	70	42	14	
	50	M50x1,5	70	55	12	
50	55	M55x2	75	37	12	
	55	M55x2	75	45	12	
	55	M55x2	75	45	14	
	55	M55x2	75	59	12	
55	60	M60x2	80	38	13	
	60	M60x2	80	47	13	
	60	M60x2	80	47	14	
	60	M60x2	80	62	13	

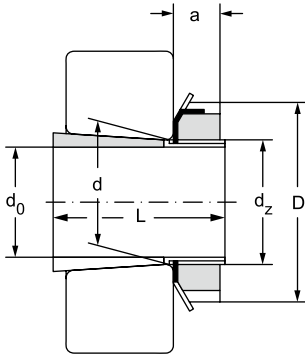
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Sleeve designation incl. nut and locking	Appropriate components		Weight
	nut	locking	kg
H205	KM5	MB5	0,07
H305	KM5	MB5	0,075
H305E	KMFE5	-	0,076
H2305	KM5	MB5	0,087
H206	KM6	MB6	0,099
H306	KM6	MB6	0,109
H306E	KMFE6	-	0,11
H2306	KM6	MB6	0,126
H207	KM7	MB7	0,125
H307	KM7	MB7	0,142
H307E	KMFE7	-	0,15
H307EL	KMFE7L	-	0,16
H2307	KM7	MB7	0,165
H208	KM8	MB8	0,174
H308	KM8	MB8	0,189
H308E	KMFE8	-	0,19
H2308	KM8	MB8	0,224
H2308E	KMFE8	-	0,24
H209	KM9	MB9	0,227
H309	KM9	MB9	0,248
H309E	KMFE9	-	0,24
H2309	KM9	MB9	0,28
H210	KM10	MB10	0,274
H310	KM10	MB10	0,303
H310E	KMFE10	-	0,3
H2310	KM10	MB10	0,362
H211	KM11	MB11	0,308
H311	KM11	MB11	0,345
H311E	KMFE11	-	0,34
H2311	KM11	MB11	0,42
H212	KM12	MB12	0,346
H312	KM12	MB12	0,394
H312E	KMFE12	-	0,4
H2312	KM12	MB12	0,481

Adapter sleeves

d = 70 to 135 mm



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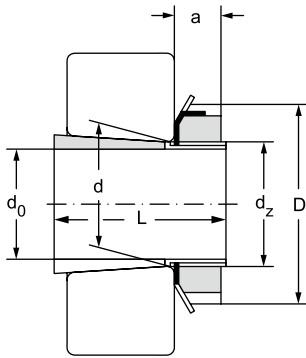
Main dimensions					
d_0	d	d_z	D	L	a
mm					
60	65	M65x2	85	40	14
	65	M65x2	85	50	14
	65	M65x2	85	50	15
	65	M65x2	85	65	14
	65	M65x2	85	65	15
65	75	M75x2	98	43	15
	75	M75x2	98	55	15
	75	M75x2	98	55	16
	75	M75x2	98	73	15
70	80	M80x2	105	46	17
	80	M80x2	105	59	17
	80	M80x2	105	59	18
	80	M80x2	105	78	17
75	85	M85x2	110	50	18
	85	M85x2	110	63	18
	85	M85x2	110	63	19
	85	M85x2	110	82	18
80	90	M90x2	120	62	18
	90	M90x2	120	65	18
	90	M90x2	120	65	19
	90	M90x2	120	73	19
	90	M90x2	120	86	18
85	95	M95x2	125	55	19
	95	M95x2	125	68	19
	95	M95x2	125	68	20
	95	M95x2	125	90	19
	95	M95x2	125	90	20
90	100	M100x2	130	58	20
	100	M100x2	130	71	20
	100	M100x2	130	71	21
	100	M100x2	130	76	20
	100	M100x2	130	76	21
	100	M100x2	130	97	20
	100	M100x2	130	97	21



Sleeve designation incl. nut and locking	Appropriate components		Weight
	nut	locking	kg
H213	KM13	MB13	0,401
H313	KM13	MB13	0,458
H313E	KMFE13	-	0,43
H2313	KM13	MB13	0,557
H2313E	KMFE13	-	0,53
H215	KM15	MB15	0,707
H315	KM15	MB15	0,831
H315E	KMFE15	-	0,82
H2315	KM15	MB15	1,05
H216	KM16	MB16	0,882
H316	KM16	MB16	1,03
H316E	KMFE16	-	1
H2316	KM16	MB16	1,28
H217	KM17	MB17	1,02
H317	KM17	MB17	1,18
H317E	KMFE17	-	1,15
H2317	KM17	MB17	1,45
H218	KM18	MB18	1,19
H318	KM18	MB18	1,37
H318E	KMFE18	-	1,45
H2318E/L73	KMFE18	-	1,5
H2318	KM18	MB18	1,69
H219	KM19	MB19	1,37
H319	KM19	MB19	1,56
H319E	KMFE19	-	1,45
H2319	KM19	MB19	1,92
H2319EL	KMFE19	-	1,85
H220	KM20	MB20	1,49
H320	KM20	MB20	1,69
H320E	KMFE20	-	1,7
H3120	KM20	MB20	1,8
H3120E	KMFE20	-	2
H2320	KM20	MB20	2,15
H2320E	KMFE20	-	2

Adapter sleeves

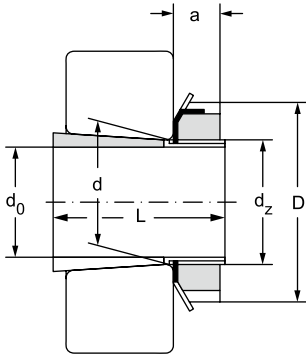
d = 140 to 180 mm



Main dimensions						
d_0	d	d_z	D	L	a	
mm						
100	110	M110x2	145	81	21	
	110	M110x2	145	81	21,5	
	110	M110x2	145	63	21	
	110	M110x2	145	77	21	
	110	M110x2	145	77	21,5	
	110	M110x2	145	105	21	
	110	M110x2	145	105	21,5	
110	120	M120x2	145	72	22	
	120	M120x2	145	88	22	
	120	M120x2	155	112	26	
	120	M120x2	155	72	26	
	120	M120x2	155	88	22	
	120	M120x2	155	112	22	
	120	M120x2	155	112	26	
	120	M120x2	155	112	26	
115	130	M130x2	155	80	23	
	130	M130x2	155	92	23	
	130	M130x2	165	121	23	
	130	M130x2	165	80	28	
	130	M130x2	165	92	23	
	130	M130x2	165	121	23	
125	140	M140x2	165	82	24	
	140	M140x2	180	97	24	
	140	M140x2	180	82	28	
	140	M140x2	180	97	24	
	140	M140x2	180	131	24	
135	150	M150x2	180	87	26	
	150	M150x2	195	111	26	
	150	M150x2	195	139	26	
	150	M150x2	195	87	30	
	150	M150x2	195	111	26	
	150	M150x2	195	111	30	
	150	M150x2	195	139	26	



Sleeve designation incl. nut and locking	Appropriate components		Weight
	nut	locking	kg
H3122	KM22	MB22	2,25
H3122E	KMFE22	-	2,15
H222	KM22	MB22	1,93
H322	KM22	MB22	2,18
H322E	KMFE22	-	2,1
H2322	KM22	MB22	2,74
H2322E	KMFE22	-	2,75
H3024	KML24	MBL24	1,93
H3124L	KML24	MBL24	2,5
H2324L			
H3024E	KMFE24	-	1,85
H3124	KM24	MB24	2,64
H2324	KM24	MB24	3,19
H2324EH	KMFE24H	-	3,1
H2324EH	KMFE24H	-	3,1
H3026	KML26	MBL26	2,85
H3126L	KML26	MBL26	3,65
H2326L	KML26	MBL26	4,15
H3026E	KMFE26	-	2,9
H3126	KM26	MB26	3,66
H2326	KM26	MB26	4,6
H3028	KML28	MBL28	3,16
H3128L	KML28	MBL28	4,1
H3028E	KMFE28	-	3,05
H3128	KM28	MB28	4,34
H2328	KM28	MB28	5,55
H3030	KML30	MBL30	3,89
H3130L	KML30	MBL30	4,7
H2330L	KML30	MBL30	5,85
H3030E	KMFE30	-	3,75
H3130	KM30	MB30	5,52
H3130E	KMFE30	-	4,7
H2330	KM30	MB30	6,63

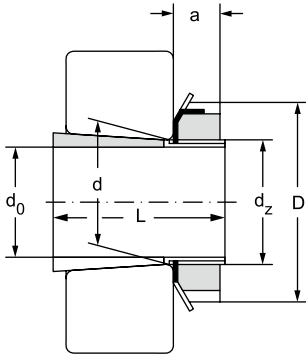


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Main dimensions					
d_0	d	d_z	D	L	a
mm					
140	160	M160x3	190	93	28
	160	M160x3	190	93	28
	160	M160x3	190	147	28
	160	M160x3	210	147	28
	160	M160x3	210	119	28
	160	M160x3	210	119	32
	160	M160x3	210	147	28
150	170	M170x3	200	101	29
	170	M170x3	200	101	29
	170	M170x3	220	101	33
	170	M170x3	220	122	29
	170	M170x3	220	122	33
	170	M170x3	220	154	29
160	180	M180x3	210	87	29,5
	180	M180x3	210	109	30
	180	M180x3	230	131	30
	180	M180x3	230	109	34
	180	M180x3	230	131	30
	180	M180x3	230	161	30
170	190	M190x3	220	89	30,5
	190	M190x3	220	112	31
	190	M190x3	240	141	31
	190	M190x3	240	169	31
180	200	M200x3	240	98	31,5
	200	M200x3	240	120	32
	200	M200x3	250	176	32
	200	M200x3	250	150	32
	200	M200x3	250	176	32
200	220	Tr220x4	260	96	30
	220	Tr220x4	260	126	30
	220	Tr220x4	260	161	30
	220	Tr220x4	280	161	35
	220	Tr220x4	280	186	35



Sleeve designation incl. nut and locking	Appropriate components		Weight
	nut	locking	kg
H3032	KML32	MBL32	5,21
H3132L	KML32	MBL32	6,4
H2332L	KML32	MBL32	7,95
H3032E	KMFE32	-	5,1
H3132	KM32	MB32	7,67
H3132E	KMFE32	-	7,35
H2332	KM32	MB32	9,14
H3034	KML34	MBL34	5,99
H3134L	KML34	MBL34	7,15
H3034E	KMFE34	-	5,9
H3134	KM34	MB34	8,36
H3134E	KMFE34	-	8,1
H2334	KM34	MB34	10,2
H3936	KML36	MBL36	5,7
H3036	KML36	MBL36	6,83
H3136L	KML36	MBL36	8,15
H3036E	KMFE36	-	6,7
H3136	KM36	MB36	9,5
H2336	KM36	MB36	11,3
H3938	KML38	MBL38	6,2
H3038	KML38	MBL38	7,45
H3138	KM38	MB38	10,8
H2338	KM38	MB38	12,6
H3940	KML40	MBL40	7,9
H3040	KML40	MBL40	9,19
H2340L	KML40	MBL40	13
H3140	KM40	MB40	12,1
H2340	KM40	MB40	13,9
H3944	HM3044	MS3044	7,95
H3044	HM3044	MS3044	9,9
H3144TL	HM3044	MS3044	14,5
H3144	HM44T	MB44	15
H2344	HM44T	MB44	17

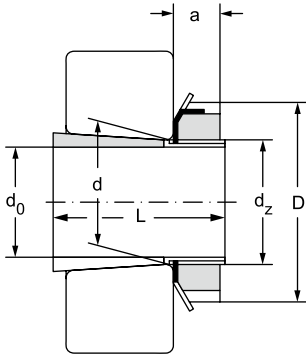


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Main dimensions					
d_0	d	d_z	D	L	a
mm					
220	240	Tr240x4	290	101	34
	240	Tr240x4	290	133	34
	240	Tr240x4	290	133	34
	240	Tr240x4	290	172	34
	240	Tr240x4	300	172	37
	240	Tr240x4	300	199	37
240	260	Tr260x4	310	116	34
	260	Tr260x4	310	145	34
	260	Tr260x4	310	145	34
	260	Tr260x4	310	190	34
	260	Tr260x4	330	190	39
	260	Tr260x4	330	211	39
260	280	Tr280x4	330	121	38
	280	Tr280x4	330	152	38
	280	Tr280x4	330	195	38
	280	Tr280x4	350	195	41
	280	Tr280x4	350	224	41
280	300	Tr300x4	360	140	42
	300	Tr300x4	360	168	42
	300	Tr300x4	380	208	40
	300	Tr300x4	380	208	40
	300	Tr300x4	380	240	40
300	320	Tr320x5	380	140	42
	320	Tr320x5	380	171	42
	320	Tr320x5	400	226	42
	320	Tr320x5	400	258	42
320	340	Tr340x5	400	144	45
	340	Tr340x5	400	187	45
	340	Tr340x5	440	254	55
	340	Tr340x5	440	254	55
	340	Tr340x5	440	288	55



Sleeve designation incl. nut and locking	Appropriate components		Weight
	nut	locking	kg
H3948	HM3048	MS3052-48	11
H3048	HM3048	MS3052-48	12
H3048E	HME3048	MS3052-48	11,5
H3148TL	HM3048	MS3052-48	15
H3148	HM48T	MB48	16,5
H2348	HM48T	MB48	19
H3952	HM3052	MS3052-48	11,5
H3052	HM3052	MS3052-48	13,5
H3052E	HME3052	MS3052-48	13,5
H3152TL	HM3052	MS3052-48	17,5
H3152	HM52T	MB52	21
H2352	HM52T	MB52	23
H3956	HM3056	MS3056	15,5
H3056	HM3056	MS3056	16
H3156TL	HM3056	MS3056	19,5
H3156	HM56T	MB56	23
H2356	HM56T	MB56	27
H3960	HM3060	MS3060	20
H3060	HM3060	MS3060	20,5
H3160	HM3160	MS3160	29
H3160E	HME3160	MS3160	27,5
H3260	HM3160	MS3160	32
H3964	HM3064	MS3068-64	21,5
H3064	HM3064	MS3068-64	22
H3164	HM3164	MS3164	32
H3264	HM3164	MS3164	35
H3968	HM3068	MS3068-64	24,5
H3068	HM3068	MS3068-64	27
H3168	HM3168	MS3172-68	50
H3168E	HME3168	MS3172-68	46
H3268	HM3168	MS3172-68	51,5

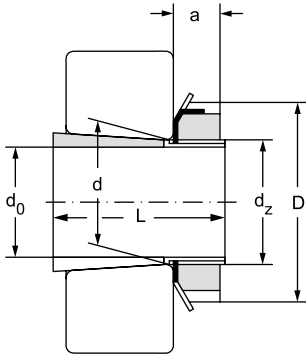


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Main dimensions					
d_0	d	d_z	D	L	a
mm					
340	360	Tr360x5	420	144	45
	360	Tr360x5	420	144	45
	360	Tr360x5	420	188	45
	360	Tr360x5	460	259	58
	360	Tr360x5	460	259	58
	360	Tr360x5	460	299	58
360	380	Tr380x5	450	164	48
	380	Tr380x5	450	164	48
	380	Tr380x5	450	193	48
	380	Tr380x5	490	264	60
	380	Tr380x5	490	264	60
	380	Tr380x5	490	310	60
380	400	Tr400x5	470	168	52
	400	Tr400x5	470	168	52
	400	Tr400x5	470	210	52
	400	Tr400x5	520	272	62
	400	Tr400x5	520	272	62
	400	Tr400x5	520	328	62
400	420	Tr420x5	490	168	52
	420	Tr420x5	490	168	52
	420	Tr420x5	490	212	52
	420	Tr420x5	540	304	70
	420	Tr420x5	540	352	70
	420	Tr420x5	540	352	70
410	440	Tr440x5	520	189	60
	440	Tr440x5	520	189	60
	440	Tr440x5	520	228	60
	440	Tr440x5	520	228	60
	440	Tr440x5	560	307	70
	440	Tr440x5	560	307	70
	440	Tr440x5	560	361	70
	440	Tr440x5	560	361	70
430	460	Tr460x5	540	189	60
	460	Tr460x5	540	234	60
	460	Tr460x5	580	326	75
	460	Tr460x5	580	382	75
	460	Tr460x5	580	382	75



Sleeve designation incl. nut and locking	Appropriate components		Weight
	nut	locking	kg
H3972	HM3072	MS3072	25
H3972E	HME3072	MS3072	24,5
H3072	HM3072	MS3072	29
H3172	HM3172	MS3172-68	56
H3172E	HME3172	MS3172-68	52
H3272	HM3172	MS3172-68	60,5
H3976	HM3076	MS3080-76	31,5
H3976E	HME3076	MS3080-76	30,5
H3076	HM3076	MS3080-76	35,5
H3176	HM3176	MS3176	61,5
H3176E	HME3176	MS3176	58
H3276	HM3176	MS3176	69,5
H3980	HM3080	MS3080-76	35
H3980E	HME3080	MS3080-76	34
H3080	HM3080	MS3080-76	40
H3180	HM3180	MS3184-80	73
H3180E	HME3180	MS3184-80	57
H3280	HM3180	MS3184-80	87
H3984	HM3084	MS3084	36
H3984E	HME3084	MS3084	34,5
H3084	HM3084	MS3084	47
H3184	HM3184	MS3184-80	80
H3284	HM3184	MS3184-80	96
H3988	HM3088	MS3092-88	58
H3988E	HME3088	MS3092-88	56
H3088	HM3088	MS3092-88	65
H3088E	HME3088	MS3092-88	63
H3188	HM3188	MS3192-88	95
H3188E	HME3188	MS3192-88	91
H3288	HM3188	MS3192-88	117
H3992	HM3092	MS3092-88	60
H3092	HM3092	MS3092-88	71
H3192	HM3192	MS3192-88	119
H3292	HM3192	MS3192-88	134

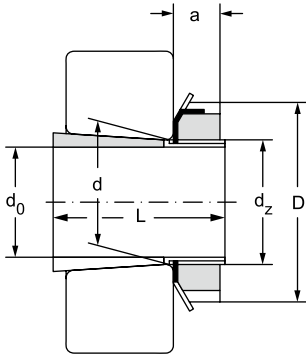


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Main dimensions					
d_0	d	d_z	D	L	a
mm					
450	480	Tr480x5	560	200	60
	480	Tr480x5	560	200	60
	480	Tr480x5	560	237	60
	480	Tr480x5	620	335	75
	480	Tr480x5	620	335	75
	480	Tr480x5	620	397	75
200	220	Tr220x4	260	96	30
	220	Tr220x4	260	126	30
	220	Tr220x4	260	161	30
	220	Tr220x4	280	161	35
	220	Tr220x4	280	186	35
220	240	Tr240x4	290	101	34
	240	Tr240x4	290	133	34
	240	Tr240x4	290	133	34
	240	Tr240x4	290	172	34
	240	Tr240x4	300	172	37
	240	Tr240x4	300	199	37
240	260	Tr260x4	310	116	34
	260	Tr260x4	310	145	34
	260	Tr260x4	310	145	34
	260	Tr260x4	310	190	34
	260	Tr260x4	330	190	39
	260	Tr260x4	330	211	39
260	280	Tr280x4	330	121	38
	280	Tr280x4	330	152	38
	280	Tr280x4	330	195	38
	280	Tr280x4	350	195	41
	280	Tr280x4	350	224	41
280	300	Tr300x4	360	140	42
	300	Tr300x4	360	168	42
	300	Tr300x4	380	208	40
	300	Tr300x4	380	208	40
	300	Tr300x4	380	240	40



Sleeve designation incl. nut and locking	Appropriate components		Weight
	nut	locking	kg
H3996	HM3096	MS30/500-96	66
H3996E	HME3096	MS30/500-96	64
H3096	HM3096	MS30/500-96	75
H3196	HM3196	MS3196	135
H3196E	HME3196	MS3196	128
H3296	HM3196	MS3196	153
OH3944H	HM3044	MS3044	7,95
OH3044H	HM3044	MS3044	9,9
OH3144HTL	HM3044	MS3044	14,5
OH3144H	HM44T	MB44	15
OH2344H	HM44T	MB44	17
OH3948H	HM3048	MS3052-48	11
OH3048H	HM3048	MS3052-48	12
OH3048HE	HME3048	MS3052-48	11,5
OH3148HTL	HM3048	MS3052-48	15
OH3148H	HM48T	MB48	16,5
OH2348H	HM48T	MB48	19
OH3952H	HM3052	MS3052-48	11,5
OH3052H	HM3052	MS3052-48	13,5
OH3052HE	HME3052	MS3052-48	13,5
OH3152HTL	HM3052	MS3052-48	17,5
OH3152H	HM52T	MB52	21
OH2352H	HM52T	MB52	23
OH3956H	HM3056	MS3056	15,5
OH3056H	HM3056	MS3056	16
OH3156HTL	HM3056	MS3056	19,5
OH3156H	HM56T	MB56	23
OH2356H	HM56T	MB56	27
OH3960H	HM3060	MS3060	20
OH3060H	HM3060	MS3060	20,5
OH3160H	HM3160	MS3160	29
OH3160HE	HME3160	MS3160	27,5
OH3260H	HM3160	MS3160	32

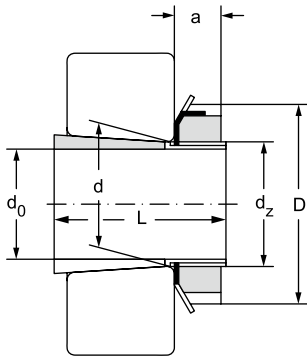


12.13.1

Main dimensions					
d_0	d	d_z	D	L	a
mm					
300	320	Tr320x5	380	140	42
	320	Tr320x5	380	171	42
	320	Tr320x5	400	226	42
	320	Tr320x5	400	258	42
320	340	Tr340x5	400	144	45
	340	Tr340x5	400	187	45
	340	Tr340x5	440	254	55
	340	Tr340x5	440	254	55
	340	Tr340x5	440	288	55
340	360	Tr360x5	420	144	45
	360	Tr360x5	420	144	45
	360	Tr360x5	420	188	45
	360	Tr360x5	460	259	58
	360	Tr360x5	460	259	58
	360	Tr360x5	460	299	58
360	380	Tr380x5	450	164	48
	380	Tr380x5	450	164	48
	380	Tr380x5	450	193	48
	380	Tr380x5	490	264	60
	380	Tr380x5	490	264	60
	380	Tr380x5	490	310	60
380	400	Tr400x5	470	168	52
	400	Tr400x5	470	168	52
	400	Tr400x5	470	210	52
	400	Tr400x5	520	272	62
	400	Tr400x5	520	272	62
	400	Tr400x5	520	328	62
400	420	Tr420x5	490	168	52
	420	Tr420x5	490	168	52
	420	Tr420x5	490	212	52
	420	Tr420x5	540	304	70
	420	Tr420x5	540	352	70



Sleeve designation incl. nut and locking	Appropriate components		Weight
	nut	locking	kg
OH3964H	HM3064	MS3068-64	21,5
OH3064H	HM3064	MS3068-64	22
OH3164H	HM3164	MS3164	32
OH3264H	HM3164	MS3164	35
OH3968H	HM3068	MS3068-64	24,5
OH3068H	HM3068	MS3068-64	27
OH3168H	HM3168	MS3172-68	50
OH3168HE	HME3168	MS3172-68	46
OH3268H	HM3168	MS3172-68	51,5
OH3972H	HM3072	MS3072	25
OH3972HE	HME3072	MS3072	24,5
OH3072H	HM3072	MS3072	29
OH3172H	HM3172	MS3172-68	56
OH3172HE	HME3172	MS3172-68	52
OH3272H	HM3172	MS3172-68	60,5
OH3976H	HM3076	MS3080-76	31,5
OH3976HE	HME3076	MS3080-76	30,5
OH3076H	HM3076	MS3080-76	35,5
OH3176H	HM3176	MS3176	61,5
OH3176HE	HME3176	MS3176	58
OH3276H	HM3176	MS3176	69,5
OH3980H	HM3080	MS3080-76	35
OH3980HE	HME3080	MS3080-76	34
OH3080H	HM3080	MS3080-76	40
OH3180H	HM3180	MS3184-80	73
OH3180HE	HME3180	MS3184-80	57
OH3280H	HM3180	MS3184-80	87
OH3984H	HM3084	MS3084	36
OH3984HE	HME3084	MS3084	34,5
OH3084H	HM3084	MS3084	47
OH3184H	HM3184	MS3184-80	80
OH3284H	HM3184	MS3184-80	96

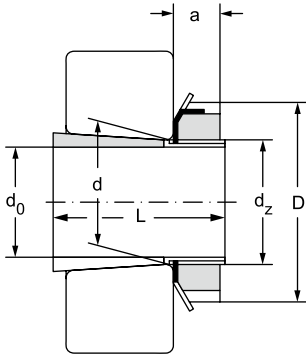


12.13.1

Main dimensions					
d_0	d	d_z	D	L	a
mm					
410	440	Tr440x5	520	189	60
	440	Tr440x5	520	189	60
	440	Tr440x5	520	228	60
	440	Tr440x5	520	228	60
	440	Tr440x5	560	307	70
	440	Tr440x5	560	307	70
	440	Tr440x5	560	361	70
430	460	Tr460x5	540	189	60
	460	Tr460x5	540	234	60
	460	Tr460x5	580	326	75
	460	Tr460x5	580	382	75
450	480	Tr480x5	560	200	60
	480	Tr480x5	560	200	60
	480	Tr480x5	560	237	60
	480	Tr480x5	620	335	75
	480	Tr480x5	620	335	75
	480	Tr480x5	620	397	75
470	500	Tr500x5	580	208	68
	500	Tr500x5	580	208	68
	500	Tr500x5	580	247	68
	500	Tr500x5	630	356	80
	500	Tr500x5	630	428	80
500	530	Tr530x6	630	216	68
	530	Tr530x6	630	216	68
	530	Tr530x6	630	265	68
	530	Tr530x6	670	364	80
	530	Tr530x6	670	447	80
530	560	Tr560x6	650	227	75
	560	Tr560x6	650	227	75
	560	Tr560x6	650	282	75
	560	Tr560x6	710	377	85
	560	Tr560x6	710	377	85
	560	Tr560x6	710	462	85



Sleeve designation incl. nut and locking	Appropriate components		Weight
	nut	locking	kg
OH3988H	HM3088	MS3092-88	58
OH3988HE	HME3088	MS3092-88	56
OH3088H	HM3088	MS3092-88	65
OH3088HE	HME3088	MS3092-88	63
OH3188H	HM3188	MS3192-88	95
OH3188HE	HME3188	MS3192-88	91
OH3288H	HM3188	MS3192-88	117
OH3992H	HM3092	MS3092-88	60
OH3092H	HM3092	MS3092-88	71
OH3192H	HM3192	MS3192-88	119
OH3292H	HM3192	MS3192-88	134
OH3996H	HM3096	MS30/500-96	66
OH3996HE	HME3096	MS30/500-96	64
OH3096H	HM3096	MS30/500-96	75
OH3196H	HM3196	MS3196	135
OH3196HE	HME3196	MS3196	128
OH3296H	HM3196	MS3196	153
OH39/500H	HM30/500	MS30/500-96	74,5
OH39/500HE	HME30/500	MS30/500-96	72,5
OH30/500H	HM30/500	MS30/500-96	82
OH31/500H	HM31/500	MS31/500	145
OH32/500H	HM31/500	MS31/500	170
OH39/530H	HM30/530	MS30/600-530	88
OH39/530HE	HME30/530	MS30/600-530	82,5
OH30/530H	HM30/530	MS30/600-530	105
OH31/530H	HM31/530	MS31/530	161
OH32/530H	HM31/530	MS31/530	192
OH39/560H	HM30/560	MS30/560	95
OH39/560HE	HME30/560	MS30/560	91,5
OH30/560H	HM30/560	MS30/560	112
OH31/560H	HM31/560	MS31/600-560	185
OH31/560HE	HME31/560	MS31/600-560	179
OH32/560H	HM31/560	MS31/600-560	219

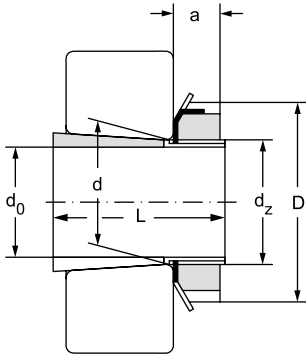


12.13.1

Main dimensions					
d_0	d	d_z	D	L	a
mm					
560	600	Tr600x6	700	239	75
	600	Tr600x6	700	239	75
	600	Tr600x6	700	289	75
	600	Tr600x6	750	399	85
	600	Tr600x6	750	399	85
590	630	Tr630x6	730	254	75
	630	Tr630x6	730	254	75
	630	Tr630x6	730	301	75
	630	Tr630x6	800	424	95
	630	Tr630x6	800	424	95
630	670	Tr670x6	780	264	80
	670	Tr670x6	780	324	80
	670	Tr670x6	850	456	106
	670	Tr670x6	850	456	106
	670	Tr670x6	850	558	106
670	710	Tr710x7	830	286	90
	710	Tr710x7	830	286	90
	710	Tr710x7	830	342	90
	710	Tr710x7	830	342	90
	710	Tr710x7	900	467	106
	710	Tr710x7	900	467	106
	710	Tr710x7	900	572	106
710	750	Tr750x7	870	291	90
	750	Tr750x7	870	291	90
	750	Tr750x7	870	356	90
	750	Tr750x7	870	356	90
	750	Tr750x7	950	493	112
	750	Tr750x7	950	493	112
	750	Tr750x7	950	603	112
750	800	Tr800x7	920	303	90
	800	Tr800x7	920	303	90
	800	Tr800x7	920	366	90
	800	Tr800x7	920	366	90
	800	Tr800x7	1000	505	112
	800	Tr800x7	1000	505	112



Sleeve designation incl. nut and locking	Appropriate components		Weight
	nut	locking	kg
OH39/600H	HM30/600	MS30/600-530	127
OH39/600HE	HME30/600	MS30/600-530	122
OH30/600H	HM30/600	MS30/600-530	147
OH31/600H	HM31/600	MS31/600-560	234
OH31/600HE	HME31/600	MS31/600-560	228
OH32/600H	HM31/600	MS31/600-560	278
OH39/630H	HM30/630	MS30/630	124
OH39/630HE	HME30/630	MS30/630	119
OH30/630H	HM30/630	MS30/630	138
OH31/630H	HM31/630	MS31/630	254
OH31/630HE	HME31/630	MS31/630	244
OH39/670H	HM30/670	MS30/670	162
OH30/670H	HM30/670	MS30/670	190
OH31/670H	HM31/670	MS31/670	340
OH31/670HE	HME31/670	MS31/670	329
OH32/670H	HM31/670	MS31/670	401
OH39/710H	HM30/710	MS30/710	183
OH39/710HE	HME30/710	MS30/710	173
OH30/710H	HM30/710	MS30/710	228
OH30/710HE	HME30/710	MS30/710	183
OH31/710H	HM31/710	MS31/710	392
OH31/710HE	HME31/710	MS31/710	379
OH32/710H	HM31/710	MS31/710	459
OH39/750H	HM30/750	MS30/800-750	211
OH39/750HE	HME30/750	MS30/800-750	203
OH30/750H	HM30/750	MS30/800-750	246
OH30/750HE	HME30/750	MS30/800-750	238
OH31/750H	HM31/750	MS31/800-750	451
OH31/750HE	HME31/750	MS31/800-750	438
OH32/750H	HM31/750	MS31/800-750	526
OH39/800H	HM30/800	MS30/800-750	259
OH39/800HE	HME30/800	MS30/800-750	250
OH30/800H	HM30/800	MS30/800-750	302
OH30/800HE	HME30/800	MS30/800-750	293
OH31/800H	HM31/800	MS31/800-750	535
OH31/800HE	HME31/800	MS31/800-750	520



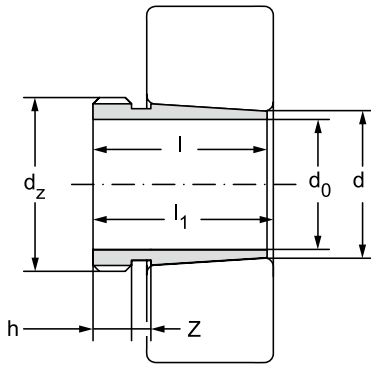
12.13.1

Main dimensions					
d_0	d	d_z	D	L	a
mm					
800	850	Tr850x7	980	308	90
	850	Tr850x7	980	308	90
	850	Tr850x7	980	380	90
	850	Tr850x7	980	380	90
	850	Tr850x7	1060	536	118
850	850	Tr850x7	1060	536	118
	900	Tr900x7	1030	326	100
	900	Tr900x7	1030	326	100
	900	Tr900x7	1030	400	100
	900	Tr900x7	1030	400	100
900	900	Tr900x7	1120	557	125
	900	Tr950x8	1080	344	100
	950	Tr950x8	1080	344	100
	950	Tr950x8	1080	420	100
	950	Tr950x8	1080	420	100
950	950	Tr950x8	1170	583	125
	950	Tr1000x8	1140	358	100
	1000	Tr1000x8	1140	430	100
	1000	Tr1000x8	1140	430	100
	1000	Tr1000x8	1240	609	125
1000	1000	Tr1000x8	1240	609	125
	1060	Tr1060x8	1200	372	100
	1060	Tr1060x8	1200	372	100
	1060	Tr1060x8	1200	447	100
	1060	Tr1060x8	1300	622	125

Sleeve designation incl. nut and locking	Appropriate components		Weight
	nut	locking	kg
OH39/850H	HM30/850	MS30/900-850	288
OH39/850HE	HME30/850	MS30/900-850	277
OH30/850H	HM30/850	MS30/900-850	341
OH30/850HE	HME30/850	MS30/900-850	330
OH31/850H	HM31/850	MS31/850	616
OH31/850HE	HME31/850	MS31/850	594
OH39/900H	HM30/900	MS30/900-850	330
OH39/900HE	HME30/900	MS30/900-850	316
OH30/900H	HM30/900	MS30/900-850	387
OH30/900HE	HME30/900	MS30/900-850	373
OH31/900H	HM31/900	MS31/900	677
OH39/950H	HM30/950	MS30/950	363
OH39/950HE	HME30/950	MS30/950	348
OH30/950H	HM30/950	MS30/950	424
OH30/950HE	HME30/950	MS30/950	409
OH31/950H	HM31/950	MS31/950	738
OH39/1000H	HM30/1000	MS30/1000	407
OH30/1000H	HM30/1000	MS30/1000	470
OH30/1000HE	HME30/1000	MS30/1000	454
OH31/1000H	HM31/1000	MS31/1000	842
OH31/1000HE	HME31/1000	MS31/1000	811
OH39/1060H	HM30/1060	MS30/1000	490
OH39/1060HE	HME30/1060	MS30/1000	473
OH30/1060H	HM30/1060	MS30/1000	571
OH31/1060H	HM31/1060	MS31/1000	984

Withdrawal sleeve $d = 35$ to 180 mm

$d = 35$ to 95 mm



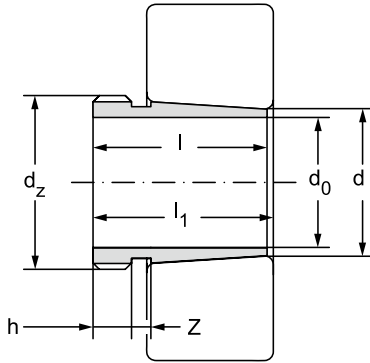
12.13.2

Main dimensions						
d_0	d	d_z	l	l_1	h	z
mm						
35	40	M45x1,5	30	32	6	5
	40	M45x1,5	40	43	7	6
40	45	M50x1,5	32	34	6	6
	45	M50x1,5	44	47	7	6
45	50	M55x2	35	38	7	6
	50	M55x2	50	53	8	6
50	55	M60x2	37	40	7	6
	55	M60x2	54	57	9	6
55	60	M65x2	40	43	8	7
	60	M65x2	57	61	10	7
60	65	M70x2	42	45	8	7
	65	M75x2	42	45	8	7
	65	M70x2	61	64	11	7
	65	M75x2	61	64	11	7
65	70	M75x2	44	47	8	7
	70	M80x2	44	47	8	7
	70	M75x2	65	68	12	7
	70	M80x2	65	68	12	7
70	75	M80x2	46	49	8	7
	75	M85x2	46	49	8	7
	75	M80x2	69	72	12	7
	75	M85x2	69	72	12	7
75	80	M90x2	48	52	8	7
	80	M90x2	72	75	12	7
80	85	M95x2	52	56	9	7
	85	M95x2	75	78	13	7
85	90	M100x2	53	57	9	7
	90	M100x2	63	67	10	7
	90	M100x2	80	83	14	7

Sleeve designation	Corresp. withdrawal nut	Weight
		kg
AH308	KM9	0,093
AH2308	KM9	0,129
AH309	KM10	0,112
AH2309	KM10	0,163
AHX310	KM11	0,138
AHX2310	KM11	0,236
AHX311	KM12	0,162
AHX2311	KM12	0,257
AHX312	KM13	0,194
AHX2312	KM13	0,299
AH313G	KM14	0,22
AH313	KM15	0,256
AH2313G	KM14	0,36
AH2313	KM15	0,399
AH314G	KM15	0,24
AH314	KM16	0,29
AHX2314G	KM15	0,42
AHX2314	KM16	0,466
AH315G	KM16	0,326
AH315	KM17	0,326
AHX2315G	KM16	0,536
AHX2315	KM17	0,536
AH316	KM18	0,367
AHX2316	KM18	0,602
AHX317	KM19	0,431
AHX2317	KM19	0,676
AHX318	KM20	0,465
AHX3218	KM20	0,578
AHX2318	KM20	0,777

Withdrawal sleeve

d = 100 to 160 mm

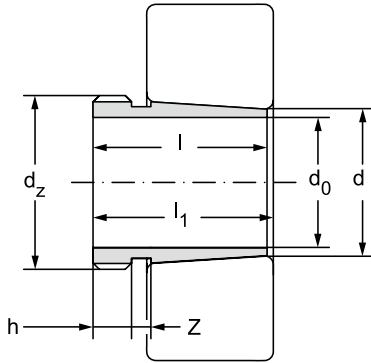


Main dimensions						
d_0	d	d_z	l	l_1	h	z
mm						
90	95	M105x2	57	61	10	8
	95	M105x2	85	89	15	8
95	100	M110x2	59	63	10	8
	100	M110x2	64	68	11	8
	100	M110x2	75	77	12	7
	100	M110x2	90	94	15	8
100	110	M125x2	68	72	11	8
105	110	M120x2	63	67	12	8
	110	M120x2	68	72	11	8
	110	M120x2	82	86	12	8
	110	M125x2	82	86	12	8
	110	M115x2	82	91	13	8
	110	M120x2	98	102	16	8
110	120	M140x2	75	79	12	8
	120	M140x2	105	109	17	8
115	120	M130x2	60	64	13	8
	120	M125x2	73	82	13	8
	120	M130x2	75	79	12	8
	120	M130x2	90	94	14	8
	120	M135x2	90	94	14	8
	120	M130x2	93	102	13	8
	120	M130x2	105	109	17	8
	120	M135x2	105	109	17	8
125	130	M140x2	67	71	14	8
	130	M140x2	78	82	12	8
	130	M135x2	83	93	14	8
	130	M140x2	94	104	14	8
	130	M140x2	98	102	15	8
	130	M145x2	98	102	15	8
	130	M140x2	115	119	19	8
	130	M145x2	115	119	19	8

Sleeve designation	Corresp. withdrawal nut	Weight
		kg
AHX319	KM21	0,537
AHX2319	KM21	0,888
AHX320	KM22	0,586
AHX3120	KM22	0,76
AHX3220	KM22	0,768
AHX2320	KM22	1
AH3122	KM25	1,28
AHX322	KM24	0,77
AHX3122	KM24	0,786
AHX3222G	KM24	1
AHX3222	KM25	1,06
AH24122	KM23	0,71
AHX2322G	KM24	1,3
AHX2322	KM25	1,35
AH3124	KM28	1,67
AH2324	KM28	2,47
AHX3024	KM26	0,737
AH24024	KM25	0,7
AHX3124	KM26	0,948
AHX3224G	KM26	1,3
AHX3224	KM27	1,31
AH24124	KM26	1
AHX2324G	KM26	1,55
AHX2324	KM27	1,61
AHX3026	KM28	0,907
AHX3126	KM28	1,08
AH24026	KM27	0,88
AH24126	KM28	1,15
AHX3226G	KM28	1,5
AHX3226	KM29	1,58
AHX2326G	KM28	1,85
AHX2326	KM29	1,97

Withdrawal sleeve

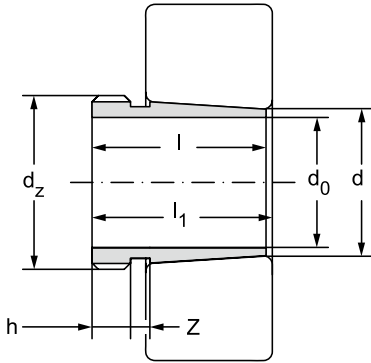
d = 170 to 180 mm



12.13.2

Main dimensions						
d ₀	d	d _z	l	l ₁	h	z
mm						
135	140	M150x2	68	73	14	10
	140	M150x2	83	88	14	10
	140	M145x2	83	93	14	10
	140	M150x2	99	109	14	10
	140	M150x2	104	109	15	10
	140	M155x3	104	109	15	10
	140	M150x2	125	130	20	10
	140	M155x3	125	130	20	10
145	150	M160x3	72	77	15	10
	150	M155x3	90	101	15	10
	150	M160x3	96	101	15	10
	150	M165x3	96	101	15	10
	150	M160x3	114	119	18	10
	150	M165x3	114	119	18	10
	150	M160x3	115	126	15	10
	150	M160x3	135	140	24	10
150	M165x3	135	140	24	10	
150	160	M170x3	77	82	16	10
	160	M170x3	95	106	15	10
	160	M170x3	103	108	16	10
	160	M180x3	103	108	16	10
	160	M170x3	124	130	20	12
	160	M180x3	124	130	20	12
	160	M170x3	124	135	15	12
	160	M170x3	140	146	24	12
160	M180x3	140	146	24	12	
160	170	M180x3	85	90	17	10
	170	M180x3	104	109	16	10
	170	M190x3	104	109	16	10
	170	M180x3	106	117	16	10
	170	M180x3	125	135	16	10
	170	M180x3	134	140	24	12
	170	M190x3	134	140	24	12
	170	M180x3	146	152	24	12
170	M190x3	146	152	24	12	

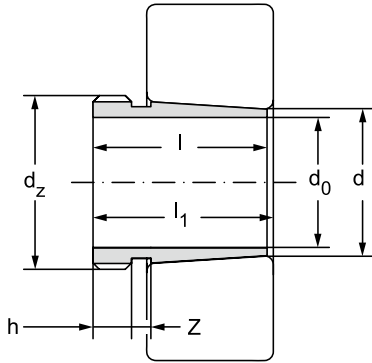
Sleeve designation	Corresp. withdrawal nut	Weight
		kg
AHX3028	KM30	0,996
AHX3128	KM30	1,26
AH24028	KM29	0,95
AH24128	KM30	1,3
AHX3228G	KM31	1,75
AHX3228	KM31	1,81
AHX2328G	KM31	2,25
AHX2328	KM31	2,34
AHX3030	KM32	1,12
AH24030	KM31	1,05
AHX3130G	KM32	1,7
AHX3130	KM33	1,75
AHX3230G	KM32	2,21
AHX3230	KM33	2,21
AH24130	KM32	1,55
AHX2330G	KM32	3,7
AHX2330	KM33	3,7
AH3032	KM34	2,01
AH24032	KM34	2,3
AH3132G	KM34	3
AH3132	KM36	3,18
AH3232G	KM34	3,7
AH3232	KM36	4,02
AH24132	KM34	1,55
AH2332G	KM34	4,35
AH2332	KM36	4,69
AH3034	KM36	2,4
AH3134G	KM36	3,2
AH3134	KM38	3,41
AH24034	KM36	2,7
AH24134	KM36	3,25
AH3234G	KM36	4,35
AH3234	KM38	3,41
AH2334G	KM38	4,85
AH2334	KM38	5,23



12.13.2

Main dimensions						
d_0	d	d_z	l	l_1	h	z
mm						
170	180	M190x3	92	98	17	12
	180	M190x3	105	110	17	10
	180	M200x3	105	110	17	10
	180	M190x3	116	122	19	12
	180	M200x3	116	122	19	12
	180	M190x3	116	127	16	12
	180	M190x3	134	145	16	12
	180	M200x3	140	146	24	12
	180	M200x3	154	160	26	12
180	190	M200x3	96	102	17	12
	190	M200x3	112	117	18	10
	190	M200x3	118	131	18	12
	190	M200x3	125	131	19	12
	190	M200x3	145	152	25	14
	190	M200x3	146	159	18	12
	190	M200x3	160	167	26	14
190	200	Tr210x4	102	108	19	
	200	Tr210x4	127	140	18	
	200	Tr220x4	134	140	21	
	200	Tr220x4	153	160	25	
	200	Tr210x4	158	171	18	
	200	Tr220x4	170	177	30	
200	220	Tr230x4	111	117	20	
	220	Tr230x4	138	152	20	
	220	Tr240x4	145	151	23	
	220	Tr230x4	170	184	20	
	220	Tr240x4	181	189	30	
220	240	Tr260x4	116	123	21	
	240	Tr250x4	138	153	20	
	240	Tr260x4	154	161	25	
	240	Tr260x4	180	195	20	
	240	Tr260x4	189	197	30	

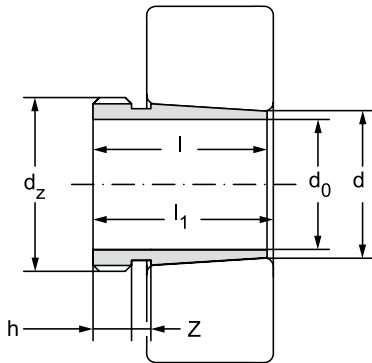
Sleeve designation	Corresp. withdrawal nut	Weight
		kg
AH3036	KM38	2,8
AH2236G	KM38	3,4
AH2236	KM40	3,67
AH3136G	KM38	3,9
AH3136	KM40	4,16
AH24036	KM38	3,2
AH24136	KM38	3,75
AH3236	KM40	5,29
AH2336	KM40	5,94
AH3038G	KM40	3,28
AH2238G	KM40	4,15
AH24038	KM40	3,55
AH3138G	KM40	4,73
AH3238	KM40	5,8
AH24138	KM40	4,45
AH2338	KM40	6,53
AH3040G	HM42T	3,7
AH24040	HM42T	4
AH3140	HM3044	5,65
AH3240	HM3044	6,6
AH24140	HM42T	5,05
AH2340	HM3044	7,6
AOH3044G	HM46T	7,3
AOH24044	HM46T	7,45
AOH3144	HM3048	9,3
AOH24144	HM46T	10
AOH2344	HM3048	13,5
AOH3048	HM3052	7,95
AOH24048	HM50T	8,05
AOH3148	HM3052	12
AOH24148	HM3052	11,5
AOH2348	HM3052	14



12.13.2

Main dimensions						
d_0	d	d_z	l	l_1	h	z
mm						
240	260	Tr280x4	128	135	23	
	260	Tr280x4	155	161	23	
	260	Tr280x4	162	178	22	
	260	Tr280x4	172	179	26	
	260	Tr280x4	202	218	22	
	260	Tr280x4	205	213	30	
260	280	Tr300x4	131	139	24	
	280	Tr300x4	155	163	24	
	280	Tr300x4	162	179	22	
	280	Tr300x4	175	183	28	
	280	Tr300x4	202	219	22	
	280	Tr300x4	212	220	30	
280	300	Tr320x5	145	153	26	
	300	Tr320x5	170	178	26	
	300	Tr320x5	184	202	24	
	300	Tr320x5	192	200	30	
	300	Tr320x5	224	242	24	
	300	Tr320x5	228	236	34	
300	320	Tr340x5	149	157	27	
	320	Tr340x5	180	190	27	
	320	Tr340x5	184	202	24	
	320	Tr340x5	209	217	31	
	320	Tr340x5	242	260	24	
	320	Tr340x5	246	254	36	
320	340	Tr360x5	162	171	28	
	340	Tr360x5	206	225	26	
	340	Tr360x5	225	234	33	
	340	Tr360x5	264	273	38	
	340	Tr360x5	269	288	26	
340	360	Tr380x5	167	176	30	
	360	Tr380x5	206	226	26	
	360	Tr380x5	229	238	35	
	360	Tr380x5	269	289	26	
	360	Tr380x5	274	283	40	

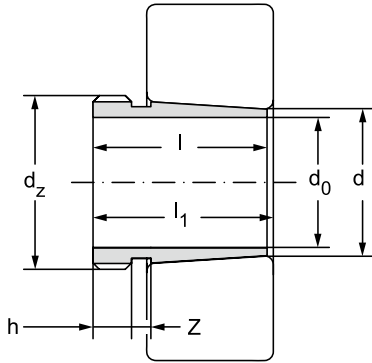
Sleeve designation	Corresp. withdrawal nut	Weight
		kg
AOH3052	HM3056	9,55
AOH2252G	HM3056	13,5
AOH24052G	HM3056	12,5
AOH3152G	HM3056	15,5
AOH24152	HM3056	14
AOH2352G	HM3056	19
AOH3056	HM3060	11
AOH2256G	HM3160	15
AOH24056G	HM3160	13,5
AOH3156G	HM3160	17
AOH24156	HM3160	15
AOH2356G	HM3160	21,5
AOH3060	HM3064	13
AOH2260G	HM3164	17,5
AOH24060G	HM3164	17
AOH3160G	HM3164	20,5
AOH24160	HM3164	18,5
AOH3260G	HM3164	23,5
AOH3064G	HM3068	16,5
AOH2264G	HM3168	20
AOH24064G	HM3168	18
AOH3164G	HM3168	24,5
AOH24164	HM3168	20,5
AOH3264G	HM3168	27,5
AOH3068G	HM3072	19
AOH24068	HM3172	18
AOH3168G	HM3172	28,5
AOH3268G	HM3172	32
AOH24168	HM3172	25,5
AOH3072G	HM3076	21
AOH24072	HM3176	20
AOH3172G	HM3176	30,5
AOH24172	HM3176	26
AOH3272G	HM3176	35,5



Main dimensions						
d_0	d	d_z	l	l_1	h	z
mm						
360	380	Tr400x5	170	180	31	
	380	Tr400x5	208	228	28	
	380	Tr400x5	232	242	36	
	380	Tr400x5	271	291	28	
	380	Tr400x5	284	294	42	
380	400	Tr420x5	183	193	33	
	400	Tr420x5	228	248	28	
	400	Tr420x5	240	250	38	
	400	Tr420x5	278	298	28	
	400	Tr420x5	302	312	44	
400	420	Tr440x5	186	196	34	
	420	Tr440x5	230	252	30	
	420	Tr440x5	266	276	40	
	420	Tr440x5	310	332	30	
	420	Tr440x5	321	331	46	
420	440	Tr460x5	194	205	35	
	440	Tr460x5	242	264	30	
	440	Tr460x5	270	281	42	
	440	Tr460x5	310	332	30	
	440	Tr460x5	330	341	48	
440	460	Tr480x5	202	213	37	
	460	Tr480x5	250	273	32	
	460	Tr480x5	285	296	43	
	460	Tr480x5	332	355	32	
	460	Tr480x5	349	360	50	
460	480	Tr500x5	205	217	38	
	480	Tr500x5	250	273	32	
	480	Tr500x5	295	307	45	
	480	Tr500x5	340	363	32	
	480	Tr500x5	364	376	52	
480	500	Tr530x6	209	221	40	
	500	Tr530x6	253	276	35	
	500	Tr530x6	313	325	47	
	500	Tr530x6	360	383	35	
	500	Tr530x6	393	405	54	

12.13.2

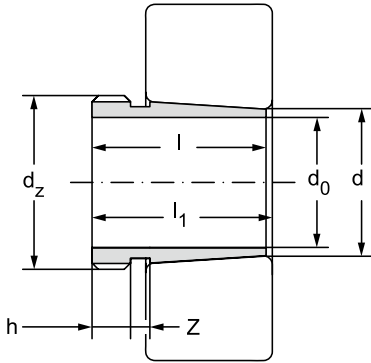
Sleeve designation	Corresp. withdrawal nut	Weight
		kg
AOH3076G	HM3080	22,5
AOH24076	HM3180	23,5
AOH3176G	HM3180	33
AOH24176	HM3180	31
AOH3276G	HM3180	42
AOH3080G	HM3084	26
AOH24080	HM3184	27
AOH3180G	HM3184	36
AOH24180	HM3184	35
AOH3280G	HM3184	48
AOH3084G	HM3088	28
AOH24084	HM3188	29
AOH3184G	HM3188	43
AOH24184	HM3188	39
AOH3284G	HM3188	54,5
AOHX3088G	HM3092	31
AOH24088	HM3192	32
AOHX3188G	HM3192	46
AOH24188	HM3192	45,5
AOHX3288G	HM3192	59
AOHX3092G	HM3096	34
AOH24092	HM3196	34,5
AOHX3192G	HM3196	51,5
AOH24192	HM3196	50
AOHX3292G	HM3196	66,5
AOHX3096G	HM30/500	34
AOH24096	HM31/500	36,5
AOHX3196G	HM31/500	56
AOH24196	HM31/500	51,5
AOHX3296G	HM31/500	73,5
AOHX30/500G	HM30/530	41
AOH240/500	HM31/530	43
AOHX31/500G	HM31/530	66,5
AOH241/500	HM31/530	62,5
AOHX32/500G	HM31/530	89,5



12.13.2

Main dimensions						
d_0	d	d_z	l	l_1	h	z
mm						
500	530	Tr560x6	230	242	45	
	530	Tr560x6	285	309	35	
	530	Tr560x6	325	337	53	
	530	Tr560x6	370	394	35	
	530	Tr560x6	412	424	57	
530	560	Tr600x6	240	252	45	
	560	Tr600x6	296	320	38	
	560	Tr600x6	335	347	55	
	560	Tr600x6	393	417	38	
	560	Tr600x6	422	434	57	
570	600	Tr630x6	245	259	45	
	600	Tr630x6	310	336	38	
	600	Tr630x6	355	369	55	
	600	Tr630x6	413	439	38	
	600	Tr630x6	445	459	57	
600	630	Tr670x6	258	272	46	
	630	Tr670x6	330	356	40	
	630	Tr670x6	375	389	60	
	630	Tr670x6	440	466	40	
	630	Tr670x6	475	489	63	
630	670	Tr710x7	280	294	50	
	670	Tr710x7	348	374	40	
	670	Tr710x7	395	409	59	
	670	Tr710x7	452	478	40	
	670	Tr710x7	500	514	62	
670	710	Tr750x7	286	302	50	
	710	Tr750x7	360	386	45	
	710	Tr750x7	405	421	60	
	710	Tr750x7	483	509	45	
	710	Tr750x7	515	531	65	
710	750	Tr800x7	300	316	50	
	750	Tr800x7	380	408	45	
	750	Tr800x7	425	441	60	
	750	Tr800x7	520	548	45	
	750	Tr800x7	540	556	65	

Sleeve designation	Corresp. withdrawal nut	Weight
		kg
AOH30/530	HM30/560	63,5
AOH240/530G	HM31/560	64,5
AOH31/530	HM31/560	93,5
AOH241/530G	HM31/560	92
AOH32/530G	HM31/560	127
AOHX30/560	HM30/600	73,5
AOH240/560G	HM31/600	79,5
AOH31/560	HM31/600	107
AOH241/560G	HM31/600	107
AOHX32/560	HM31/600	143
AOHX30/600	HM30/630	77
AOHX240/600	HM31/630	86,5
AOHX31/600	HM31/630	120
AOHX241/600	HM31/630	118
AOHX32/600G	HM31/630	159
AOH30/630	HM30/670	88,5
AOH240/630G	HM31/670	101
AOH31/630	HM31/670	139
AOH241/630G	HM31/670	139
AOH32/630G	HM31/670	188
AOH30/670	HM30/710	125
AOH240/670G	HM31/710	141
AOHX31/670	HM31/710	189
AOH241/670	HM31/710	185
AOH32/670G	HM31/710	252
AOHX30/710	HM30/750	139
AOH240/710G	HM31/750	155
AOHX31/710	HM31/750	207
AOH241/710	HM31/750	212
AOH32/710G	HM31/750	278
AOH30/750	HM30/800	145
AOH240/750G	HM31/800	179
AOH31/750	HM31/800	238
AOH241/750G	HM31/800	248
AOH32/750	HM31/800	320

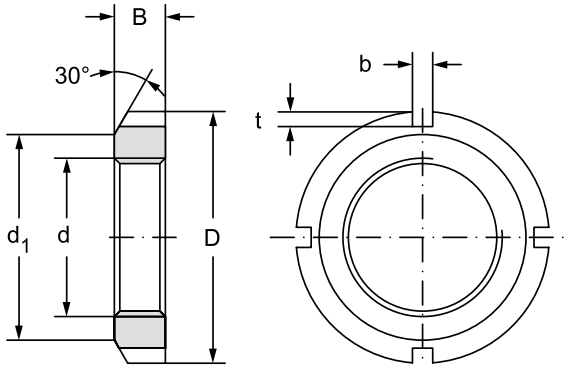


Main dimensions						
d_0	d	d_z	l	l_1	h	z
mm						
750	800	Tr850x7	308	326	50	
	800	Tr850x7	395	423	50	
	800	Tr850x7	438	456	63	
	800	Tr850x7	525	553	50	
	800	Tr850x7	550	568	67	
800	850	Tr900x7	325	343	53	
	850	Tr900x7	415	445	50	
	850	Tr900x7	462	480	62	
	850	Tr900x7	560	600	60	
	850	Tr900x7	585	603	70	
850	900	Tr950x8	335	355	55	
	900	Tr950x8	430	475	55	
	900	Tr950x8	475	495	63	
	900	Tr950x8	575	620	60	
	900	Tr950x8	585	605	70	
900	950	Tr1000x8	355	375	55	
	950	Tr1000x8	467	512	55	
	950	Tr1000x8	500	520	62	
	950	Tr1000x8	600	620	70	
	950	Tr1000x8	605	650	60	
950	1000	Tr1060x8	365	387	57	
	1000	Tr1060x8	469	519	57	
	1000	Tr1060x8	525	547	63	
	1000	Tr1060x8	630	652	70	
	1000	Tr1060x8	645	695	65	
1000	1060	Tr1120x8	385	407	60	
	1060	Tr1120x8	498	548	60	
	1060	Tr1120x8	540	562	65	
	1060	Tr1120x8	665	715	65	

12.13.2

Sleeve designation	Corresp. withdrawal nut	Weight
		kg
AOH30/800	HM30/850	204
AOH240/800G	HM31/850	237
AOH31/800	HM31/850	305
AOH241/800G	HM31/850	318
AOH32/800	HM31/850	401
AOH30/850	HM30/900	230
AOH240/850G	HM31/900	265
AOH31/850	HM31/900	345
AOH241/850	HM31/900	368
AOH32/850	HM31/900	461
AOH30/900	HM30/950	250
AOH240/900	HM31/950	296
AOH31/900	HM31/950	379
AOH241/900	HM31/950	402
AOH32/900	HM31/950	489
AOH30/950	HM30/1000	285
AOH240/950	HM31/1000	340
AOH31/950	HM31/1000	426
AOH32/950	HM31/1000	533
AOH241/950	HM31/1000	449
AOH30/1000	HM30/1060	318
AOH240/1000	HM31/1060	369
AOH31/1000	HM31/1060	485
AOH32/1000	HM31/1060	608
AOH241/1000	HM31/1060	519
AOH30/1060	HM30/1120	406
AOH240/1060	HM30/1120	479
AOH31/1060	HM30/1120	599
AOH241/1060	HM30/1120	652

Adapter and withdrawal round nuts

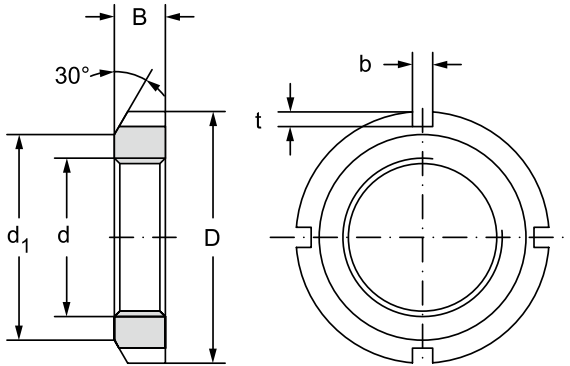


12.13.3

Main dimensions					
d	d	d ₁	B	b	t
mm					
M10x0,75	18	13,5	4	3	2
M12x1	22	17	4	3	2
M15x1	25	21	5	4	2
M17x1	28	24	5	4	2
M20x1	32	26	6	4	2
M25x1,5	38	32	7	5	2
M30x1,5	45	38	7	5	2
M35x1,5	52	44	8	5	2
M40x1,5	58	50	9	6	2,5
M45x1,5	65	56	10	6	2,5
M50x1,5	70	61	11	6	2,5
M55x2	75	67	11	7	3
M60x2	80	73	11	7	3
M65x2	85	79	12	7	3
M70x2	92	85	12	8	3,5
M75x2	98	90	13	8	3,5
M80x2	105	95	15	8	3,5
M85x2	110	102	16	8	3,5
M90x2	120	108	16	10	4
M95x2	125	113	17	10	4
M100x2	130	120	18	10	4

Nut designation		Corresp. locking washer	Weight
KM	KMA		
			kg
KM0	MB0		0,004
KM1	MB1		0,007
KM2	MB2		0,01
KM3	MB3		0,013
KM4	MB4		0,019
KM5	KMA5	MB5	0,025
KM6	KMA6	MB6	0,043
KM7	KMA7	MB7	0,053
KM8	KMA8	MB8	0,085
KM9	KMA9	MB9	0,12
KM10	KMA10	MB10	0,15
KM11	KMA11	MB11	0,16
KM12	KMA12	MB12	0,17
KM13	KMA13	MB13	0,2
KM14	KMA14	MB14	0,24
KM15	KMA15	MB15	0,29
KM16	KMA16	MB16	0,4
KM17	KMA17	MB17	0,45
KM18	KMA18	MB18	0,56
KM19	MB19		0,66
KM20	KMA20	MB20	0,7

Adapter and withdrawal round nuts



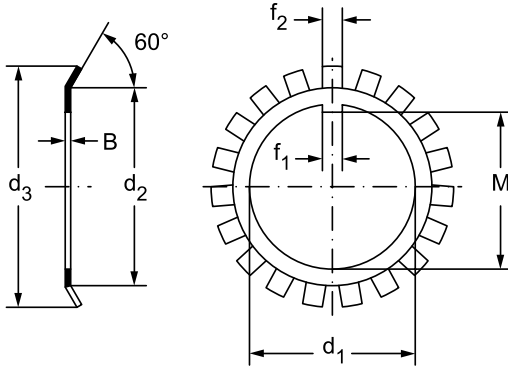
12.13.3

Main dimensions					
d	d	d ₁	B	b	t
mm					
M105x2	140	126	18	12	5
M110x2	145	133	19	12	5
M115x2	150	137	19	12	5
M120x2	155	138	20	12	5
M125x2	160	148	21	12	5
M130x2	165	149	21	12	6
M135x2	175	160	22	14	6
M140x2	180	160	22	14	6
M150x2	195	171	24	14	6
M160x3	210	182	25	16	7
M170x3	220	193	26	16	7
M180x3	230	203	27	18	8
M190x3	240	214	28	18	8
M200x3	250	226	29	18	8

Nut designation		Corresp. locking washer	Weight
KM	KMA		kg
KM21	KMA21	MB21	0,84
KM22	KMA22	MB22	0,97
KM23	MB23		1,01
KM24	KMA24	MB24	1,08
KM25	KMA25	MB25	1,19
KM26	KMA26	MB26	1,25
KM27	MB27		1,55
KM28	MB28		1,6
KM30	MB30		2,03
KM32	MB32		2,59
KM34	MB34		2,8
KM36	MB36		3,07
KM38	MB38		3,39
KM40	MB40		3,69

Safety mats d = 10 to 200 mm

d = 10 to 100 mm



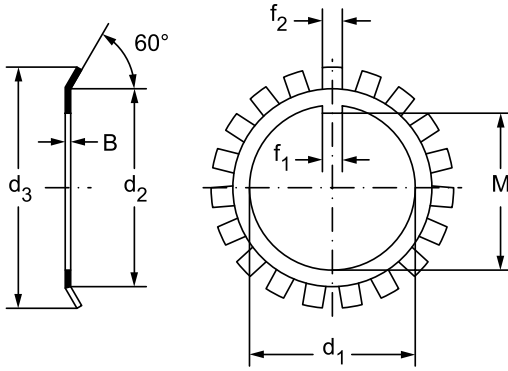
12.13.4

Main dimensions						
d_1	d_2	d_3	B	f_1	f_2	M
mm						
10	13,5	21	1	3	3	8,5
12	17	25	1	3	3	10,5
15	21	28	1	4	4	13,5
17	24	32	1	4	4	15,5
20	26	36	1	4	4	18,5
25	32	42	1,25	5	5	23
30	38	49	1,25	5	5	27,5
35	44	57	1,25	6	5	32,5
40	50	62	1,25	6	6	37,5
45	56	69	1,25	6	6	42,5
50	61	74	1,25	6	6	47,5
55	67	81	1,5	8	7	52,5
60	73	86	1,5	8	7	57,5
65	79	92	1,5	8	7	62,2
70	85	98	1,5	8	8	66,5
75	90	104	1,5	8	8	71,5
80	95	112	1,8	10	8	76,5
85	102	119	1,8	10	8	81,5
90	108	126	1,8	10	10	86,5
95	113	133	1,8	10	10	91,5
100	120	140	1,8	12	10	96,5

Locking washers designation	Weight 100 pcs.
	kg
MB0	0,13
MB1	0,2
MB2	0,26
MB3	0,32
MB4	0,35
MB5	0,64
MB6	0,78
MB7	1,04
MB8	1,23
MB9	1,52
MB10	1,6
MB11	1,96
MB12	2,53
MB13	2,9
MB14	3,34
MB15	3,56
MB16	4,64
MB17	5,24
MB18	6,23
MB19	6,7
MB20	7,65

Safety mats

d = 105 to 200 mm



Main dimensions						
d_1	d_2	d_3	B	f_1	f_2	M
mm						
105	126	145	1,8	12	12	100,5
110	133	154	1,8	12	12	105,5
115	137	159	2	12	12	110,5
120	135	148	2	14	12	115
	138	164	2	14	12	115
125	148	170	2	14	12	120
130	149	175	2	14	12	125
135	160	185	2	14	14	130
140	160	192	2	16	14	135
150	171	205	2	16	14	145
160	182	217	2,5	18	16	154
170	193	232	2,5	18	16	164
180	203	242	2,5	20	18	174
190	214	252	2,5	20	18	184
200	226	262	2,5	20	18	194

12.13.4

Locking washers designation	Weight 100 pcs.
	kg
MB21	8,26
MB22	9,4
MB23	10,8
MBL24	7
MB24	10,5
MB25	11,8
MB26	11,3
MB27	14,4
MB28	14,2
MB30	15,5
MB32	22,2
MB34	24,7
MB36	16,8
MB38	27,8
MB40	29,3