



BERTOLOTO & GROTTA
ACCESSORIES FOR BEARINGS



PRODUCTS CATALOG

High Performance and More Productivity

Since 1957

ISO 9001

PRESENTATION

History **BGL – Bertoloto & Grotta** is a 100% Brazilian company, leader in the national market of fastening elements for industrial bearings, such as **sleeves, lock and precision nuts, lock washers, hydraulic nuts, hook spanners, extension tubes and hydraulic pumps**. It was incorporated on August 14, 1957 in the town of Limeira, State of Sao Paulo, Brazil where it still operates today, in a strategical location, in a 13,000 m² square meter area. **It is a pioneer in the manufacturing of sleeves and spare parts for bearings** in Brazil, exporting to various countries.

Technology With its experience, **BGL** has developed material for the manufacture of sleeves and nuts, based on the **DIN 1563** Rule, class **GJS 500-7**, known as **GGG50**, and **ABNT NBR 6916** class **FE 500-07**. That material has been enhanced to reach even more tensile strength than required by the international **DIN** and **ISO** rules. Furthermore, the material is stronger than rolled steel, based on **SAE 1020**. **BGL** advises sleeves to be specified as nodular(ductile) for its higher quality characteristics, but it also manufactures parts in stainless or carbon steel upon customer's request.

The manufacture is vertical, allowing full control of the whole transformation technology, from the raw material to the finished part. Furthermore, the company relies on qualified suppliers and has full control, from the entry of the raw material to laser mark the batch number over the parts, thus assuring full traceability to the process and the product.

With fast delivery, **BGL** parts are provided to customers in several industry fields, such as agricultural machines, paper and cellulose, mining, mills, oil production, textile machinery, fans, crushers, machines for ceramics, road and ship building, among others.

Tradition and certification With more than 60 years of tradition on bearing sleeves market, **BGL** always seek the state-of-art technologies on manufacturing, quality and development technologies to meet customer requirements by selling high quality products and services and continuously improving its processes, which can be shown by the **ISO 9001** certification

PREFACE

This catalogue has been developed by **BGL** technical department as a guide for dimensions. It may have changes with no prior notice, and its partial or full reproduction is authorized, as long as the source is credited as **BGL**.

Every care has been taken to prepare this catalogue, concerning information contained herein. We are not responsible for eventual mistakes and omissions.

All the products mentioned herein require careful handling for safety, especially in hydraulic methods. Check and always follow assembly and disassembly instructions to avoid accidents.

TECHNICAL INFORMATION

2D/3D CAD Catalog www.bgl.com.br/en/catalogo

Assembling and Disassembly Instructions

www.bgl.com.br/en/treinamento.htm

PDF Catalog and Folders Download

www.bgl.com.br/en/catalogos-folders.htm

On Line - Radial Internal Clearance or Axial Displacement Calculation

www.bgl.com.br/en/calculo_reducao

BGL APP - Radial Internal Clearance or Axial Displacement Calculation,
sign in **Google Play** or **APP Store**.

BGL follows International Standards DIN and ISO



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MORE INFORMATION

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APPENDIX

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ADAPTER SLEEVE

ADAPTER SLEEVE H, HE, HA, HS



Used for fastening bearings with tapered bore on smooth shaft (maximum tolerance h10), without need of holder.

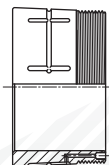
It is composed of three parts: the sleeve, one nut and lockwasher or locking device MS, delivered always with this complete set.

Material: Nodular BGL with better characteristics as indicated in the standard DIN 1563, class GJS 500-7 (old GGG 50). Optional in carbon steel.

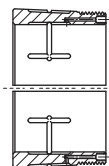


HYDRAULIC ADAPTER SLEEVE

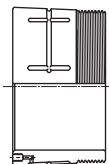
With the same dimensions of the standard sleeves, these are recommended to shafts and sets of big dimensions, because they are provided with internal and external channels for oil injection, making ease the assembly and mainly the disassembly. Available for shafts from 140 mm.



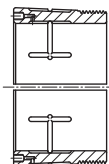
Normal: **OH...H**= hydraulic adapter sleeve with oil grooves in the external side, with the injection on the thread side (the most usual).
Example of codification: OH3144H



Option: **OH...HB**= hydraulic adapter sleeve with oil grooves in the internal and external side, with the injection on the thread side.
Example of codification: OH3144HB



Option: **OH...**= hydraulic adapter sleeve with oil grooves in the external side, with the injection on the opposite side of the thread.
Example of codification: OH3144



Option: **OH...B**= hydraulic adapter sleeve with grooves in the internal and external side, with the injection on the opposite side of the thread. Example of codification: OH3144B

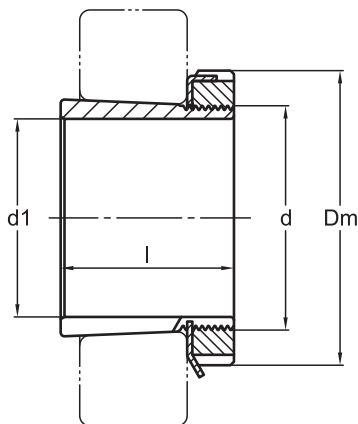
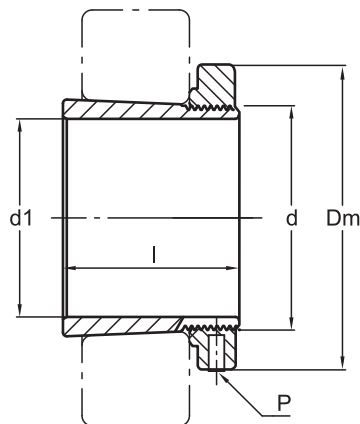
ADAPTER SLEEVE

H – for shafts in mm

Code	Code (hydraulics)	d1 (mm)	d2 (mm)	Thread* (mm)	l (mm)	dm (mm)	Weight (Kg)	p
H 204		17	20	M 20X1	24	32	0.04	
H 304		17	20	M 20X1	28	32	0.04	
H 304 E		17	20	M 20X1	28	32	0.05	M 5
H 2304		17	20	M 20X1	31	32	0.47	
H 205		20	25	M 25X1,5	26	38	0.06	
H 305		20	25	M 25X1,5	29	38	0.07	
H 305 E		20	25	M 25X1,5	29	38	0.08	M 5
H 2305		20	25	M 25X1,5	35	38	0.84	
H 206		25	30	M 30X1,5	27	45	0.08	
H 306		25	30	M 30X1,5	31	45	0.09	
H 306 E		25	30	M 30X1,5	31	45	0.11	M 5
H 2306		25	30	M 30X1,5	38	45	0.10	
H 207		30	35	M 35X1,5	29	52	0.12	
H 307		30	35	M 35X1,5	35	52	0.13	
H 307 E		30	35	M 35X1,5	35	52	0.15	M 5
H 2307		30	35	M 35X1,5	43	52	0.15	
H 208		35	40	M 40X1,5	31	58	0.15	
H 308		35	40	M 40X1,5	36	58	0.16	
H 308 E		35	40	M 40X1,5	36	58	0.15	M 6
H 2308		35	40	M 40X1,5	46	58	0.19	
H 209		40	45	M 45X1,5	33	65	0.19	
H 309		40	45	M 45X1,5	39	65	0.21	
H 309 E		40	45	M 45X1,5	39	65	0.24	M 6
H 2309		40	45	M 45X1,5	50	65	0.27	
H 210		45	50	M 50X1,5	35	70	0.23	
H 310		45	50	M 50X1,5	42	70	0.26	
H 310 E		45	50	M 50X1,5	42	70	0.30	M 6
H 2310		45	50	M 50X1,5	55	70	0.32	
H 211		50	55	M 55X1,5	37	75	0.27	
H 311		50	55	M 55X1,5	45	75	0.30	
H 311 E		50	55	M 55X1,5	45	75	0.33	M 6
H 2311		50	55	M 55X1,5	59	75	0.37	

* Example of thread code: M 50 x 1,5 M: metric thread, 50: thread diameter, 1,5: thread pitch.

* Suffix E: Sleeve developed to be assembled on shaft of bearing with tapered bore, with toroidal rollers (CARB), and with nut KMFE fastened using screw. The use of lockwasher is not necessary.

**ADAPTER SLEEVE H****ADAPTER SLEEVE H...AND WITH NUT KMFE****TOOLS OF ASSEMBLY AND DISASSEMBLY**

Nut for assembly	Locking device	Hook spanner	Hydraulic nut	Hydraulic pump	Bearings
KM 4	MB 4	HN 4		BH 100	1204K
KM 4	MB 4	HN 4		BH 100	1304K • 2204K
KMFE 4		HN 4		BH 100	C 2204K
KM 4	MB 4	HN 4		BH 100	2304K
KM 5	MB 5	HN 5		BH 100	1205K • 20205K
KM 5	MB 5	HN 5		BH 100	1305K • 20305K • 2205K • 22205K
KMFE 5		HN 5		BH 100	C 2205K
KM 5	MB 5	HN 5		BH 100	2305K • UK 205 • UK 305
KM 6	MB 6	HN 6		BH 100	1206K • 20206K
KM 6	MB 6	HN 6		BH 100	1306K • 20306K • 2206K • 22206K
KMFE 6		HN 6		BH 100	C 2206K
KM 6	MB 6	HN 6		BH 100	2306K • UK 206 • UK 306
KM 7	MB 7	HN 7		BH 100	1207K • 20207K
KM 7	MB 7	HN 7		BH 100	1307K • 20307K • 2207K • 22207K
KMFE 7		HN 7		BH 100	C 2207K
KM 7	MB 7	HN 7		BH 100	2307K • UK 207 • UK 307
KM 8	MB 8	HN 8		BH 100	1208K • 20208K
KM 8	MB 8	HN 8		BH 100	1308K • 20308K • 21308K • 2208K • 22208K • C 2208KV
KMFE 8		HN 8		BH 100	C 2208K
KM 8	MB 8	HN 8		BH 100	22308K • 2308K • UK 208 • UK 308
KM 9	MB 9	HN 9		BH 100	1209K • 20209K
KM 9	MB 9	HN 9		BH 100	1309K • 20309K • 21309K • 2209K • 22209K
KMFE 9		HN 9		BH 100	C 2209K
KM 9	MB 9	HN 9		BH 100	22309K • 2309K • UK 209 • UK 309
KM 10	MB 10	HN 10	HMV 10E	BH 100	1210K • 20210K
KM 10	MB 10	HN 10	HMV 10E	BH 100	1310K • 20310K • 21310K • 2210K • 22210K
KMFE 10		HN 10	HMV 10E	BH 100	C 2210K
KM 10	MB 10	HN 10	HMV 10E	BH 100	22310K • 2310K • UK 210 • UK 310
KM 11X1.5	MB 11	HN 11	HMV 11X1.5E	BH 100	1211K • 20211K
KM 11X1.5	MB 11	HN 11	HMV 11X1.5E	BH 100	1311K • 20311K • 21311K • 2211K • 22211K
KMFE 11X1.5		HN 11	HMV 11X1.5E	BH 100	C 2211K
KM 11X1.5	MB 11	HN 11	HMV 11X1.5E	BH 100	22311K • 2311K • UK 211 • UK 311

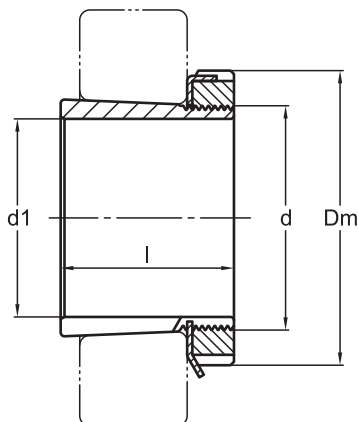
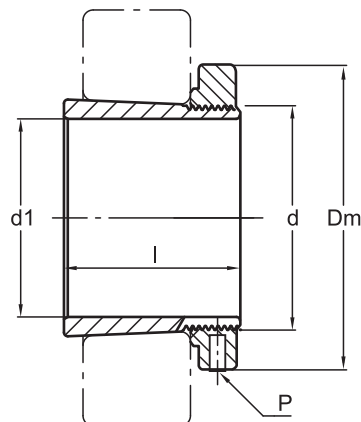
ADAPTER SLEEVE

H – for shafts in mm

Code	Code (hydraulics)	d1 (mm)	d2 (mm)	Thread* (mm)	l (mm)	dm (mm)	Weight (Kg)	p
H 212		55	60	M 60X1,5	38	80	0.30	
H 312		55	60	M 60X1,5	47	80	0.34	
H 312 E		55	60	M 60X1,5	47	80	0.40	M 6
H 2312		55	60	M 60X1,5	62	80	0.42	
H 213		60	65	M 65X1,5	40	85	0.35	
H 313		60	65	M 65X1,5	50	85	0.40	
H 313 E		60	65	M 65X1,5	50	85	0.43	M 6
H 2313		60	65	M 65X1,5	65	85	0.49	
H 214		60	70	M 70X2	41	92	0.54	
H 314		60	70	M 70X2	52	92	0.64	
H 314 E		60	70	M 70X2	52	92	0.67	M 6
H 2314		60	70	M 70X2	68	92	0.81	
H 215		65	75	M 75X2	43	98	0.62	
H 315		65	75	M 75X2	55	98	0.74	
H 315 E		65	75	M 75X2	55	98	0.80	M 6
H 2315		65	75	M 75X2	73	98	0.94	
H 216		70	80	M 80X2	46	105	0.77	
H 316		70	80	M 80X2	59	105	0.91	
H 316 E		70	80	M 80X2	59		1.01	M 8
H 2316		70	80	M 80X2	78	105	1.14	
H 217		75	85	M 85X2	50	110	0.89	
H 317		75	85	M 85X2	63	110	1.05	
H 317 E		75	85	M 85X2	63	110	1.17	M 8
H 2317		75	85	M 85X2	82	110	1.30	
H 218		80	90	M 90X2	52	120	1.06	
H 318		80	90	M 90X2	65	120	1.23	
H 318 E		80	90	M 90X2	65	120	1.43	M 8
H 2318		80	90	M 90X2	86	120	1.52	
H 219		85	95	M 95X2	55	125	1.20	
H 319		85	95	M 95X2	68	125	1.37	
H 319 E		85	95	M 95X2	68	125	1.41	M 8
H 2319		85	95	M 95X2	90	125	1.71	

* Example of thread code: M 50 x 1,5 M: metric thread, 50: thread diameter, 1,5: thread pitch.

* Suffix E: Sleeve developed to be assembled on shaft of bearing with tapered bore, with toroidal rollers (CARB), and with nut KMFE fastened using screw. The use of lockwasher is not necessary.

**ADAPTER SLEEVE H****ADAPTER SLEEVE H...AND WITH NUT KMFE****TOOLS OF ASSEMBLY AND DISASSEMBLY**

Nut for assembly	Locking device	Hook spanner	Hydraulic nut	Hydraulic pump	Bearings
KM 12X1.5	MB 12	HN 12	HMV 12X1.5E	BH 100	1212K • 20212K
KM 12X1.5	MB 12	HN 12	HMV 12X1.5E	BH 100	1312K • 20312K • 21312K • 2212K • 22212K • C 2212KV
KMFE 12X1.5		HN 12	HMV 12X1.5E	BH 100	C 2212K
KM 12X1.5	MB 12	HN 12	HMV 12X1.5E	BH 100	22312K • 2312K • UK 212 • UK 312
KM 13X1.5	MB 13	HN 13	HMV 13X1.5E	BH 100	1213K • 20213K
KM 13X1.5	MB 13	HN 13	HMV 13X1.5E	BH 100	1313K • 20313K • 21313K • 2213K • 22213K • C 2213KV
KMFE 13X1.5		HN 13	HMV 13X1.5E	BH 100	C 2213K
KM 13X1.5	MB 13	HN 13	HMV 13X1.5E	BH 100	22313K • 2313K • UK 213 • UK 313
KM 14	MB 14	HN 14	HMV 14E	BH 100	1214K • 20214K
KM 14	MB 14	HN 14	HMV 14E	BH 100	1314K • 20314K • 21314K • 2214K • 22214K • C 2214KV
KMFE 14		HN 14	HMV 14E	BH 100	C 2214K
KM 14	MB 14	HN 14	HMV 14E	BH 100	22314K • 2314K • C 2314K
KM 15	MB 15	HN 15	HMV 15E	BH 100	1215K • 20215K
KM 15	MB 15	HN 15	HMV 15E	BH 100	1315K • 20315K • 21315K • 2215K • 22215K • C 2215KV
KMFE 15		HN 15	HMV 15E	BH 100	C 2215K
KM 15	MB 15	HN 15	HMV 15E	BH 100	22315K • 2315K • C 2315K • UK 215 • UK 315
KM 16	MB 16	HN 16	HMV 16E	BH 100	1216K • 20216K
KM 16	MB 16	HN 16	HMV 16E	BH 100	1316K • 20316K • 21316K • 2216K • 22216K • C 2216KV
KMFE 16		HN 16	HMV 16E	BH 100	C 2216K
KM 16	MB 16	HN 16	HMV 16E	BH 100	22316K • 2316K • C 2316K • UK 216 • UK 316
KM 17	MB 17	HN 17	HMV 17E	BH 100	1217K • 20217K
KM 17	MB 17	HN 17	HMV 17E	BH 100	1317K • 20317K • 21317K • 2217K • 22217K • C 2217KV
KMFE 17		HN 17	HMV 17E	BH 100	C 2217K
KM 17	MB 17	HN 17	HMV 17E	BH 100	22317K • 2317K • C 2317K • UK 217 • UK 317
KM 18	MB 18	HN 18	HMV 18E	BH 100	1218K • 20218K
KM 18	MB 18	HN 18	HMV 18E	BH 100	1318K • 20318K • 21318K • 2218K • 22218K • C 2218KV
KMFE 18		HN 18	HMV 18E	BH 100	C 2218K
KM 18	MB 18	HN 18	HMV 18E	BH 100	22318K • 2318K • 23218K • C 2318K • UK 218 • UK 318
KM 19	MB 19	HN 19	HMV 19E	BH 100	1219K • 20219K
KM 19	MB 19	HN 19	HMV 19E	BH 100	1319K • 20319K • 21319K • 2219K • 22219K
KMFE 19		HN 19	HMV 19E	BH 100	C 2219K
KM 19	MB 19	HN 19	HMV 19E	BH 100	22319K • 2319K • C 2319K • UK 319

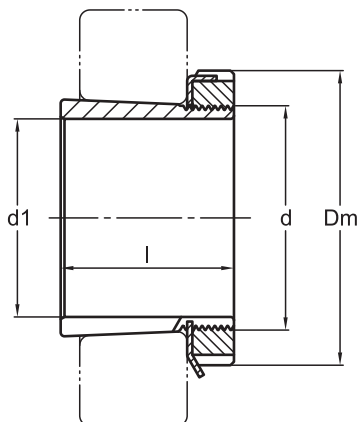
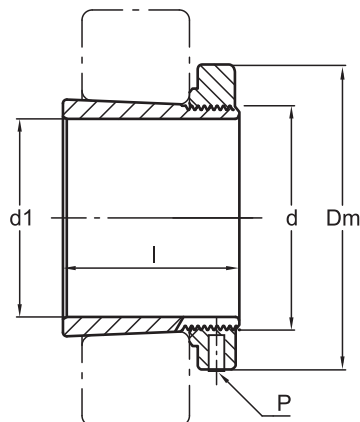
ADAPTER SLEEVE

H – for shafts in mm

Code	Code (hydraulics)	d1 (mm)	d2 (mm)	Thread* (mm)	l (mm)	dm (mm)	Weight (Kg)	P
H 220		90	100	M 100X2	58	130	1.35	
H 320		90	100	M 100X2	71	130	1.54	
H 320 E		90	100	M 100X2	71	130	1.72	M 8
H 2320		90	100	M 100X2	97	130	1.96	
H 3120		90	100	M 100X2	76	130	1.61	
H 221		95	105	M 105X2	60	140	1.54	
H 321		95	105	M 105X2	74	140	1.78	
H 2321		95	105	M 105X2	101	140	2.26	
H 222		100	110	M 110X2	63	145	1.72	
H 322		100	110	M 110X2	77	145	1.96	
H 322 E		100	110	M 110X2	77	145	2.11	M 8
H 2322		100	110	M 110X2	105	145	2.49	
H 3122		100	110	M 110X2	81	145	2.03	
H 2324		110	120	M 120X2	112	155	2.87	
H 2324 L		110	120	M 120X2	112	145	2.87	
H 3024		110	120	M 120X2	72	145	1.74	
H 3124		110	120	M 120X2	88	155	2.34	
H 3124 L		110	120	M 120X2	88	145	2.34	
H 3924		110	120	M 120X2	60	145	1.68	
H 2326		115	130	M 130X2	121	165	4.14	
H 2326 L		115	130	M 130X2	121	155	4.90	
H 3026		115	130	M 130X2	80	155	2.57	
H 3126		115	130	M 130X2	92	165	3.26	
H 3126 L		115	130	M 130X2	92	155	3.26	
H 3926		115	130	M 130X2	65	155	2.43	
H 2328		125	140	M 140X2	131	180	5.06	
H 2328 L		125	140	M 140X2	131	165	4.92	
H 3028		125	140	M 140X2	82	165	2.88	
H 3128		125	140	M 140X2	97	180	3.90	
H 3128 L		125	140	M 140X2	97	165	3.90	
H 3928		125	140	M 140X2	66	165	2.70	
H 2330		135	150	M 150X2	139	195	6.06	
H 3030		135	150	M 150X2	87	180	3.55	
H 3130		135	150	M 150X2	111	195	5.01	

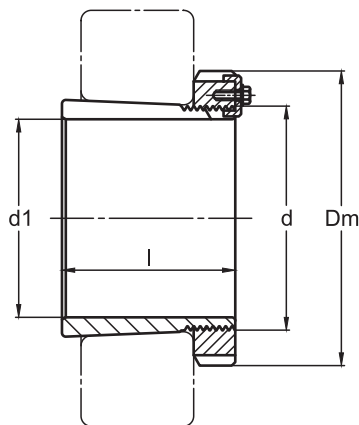
* Example of thread code: M 50 x 1,5 M: metric thread, 50: thread diameter, 1,5: thread pitch.

* Suffix E and F: Sleeve developed to be assembled on shaft of bearing with tapered bore, with toroidal rollers (CARB), and with nut KMFE fastened using screw. The use of lockwasher is not necessary in the case of sleeve E, because the nut to be used is KMFE. For sleeves L, the nuts KML and lockwashers MBL should be used.

**ADAPTER SLEEVE H****ADAPTER SLEEVE H...AND WITH NUT KMFE****TOOLS OF ASSEMBLY AND DISASSEMBLY**

Nut for assembly	Locking device	Hook spanner	Hydraulic nut	Hydraulic pump	Bearings
KM 20	MB 20	HN 20	HMV 20E	BH 100	1220K • 20220K
KM 20	MB 20	HN 20	HMV 20E	BH 100	1320K • 20320K • 21320K • 2220K • 22220K
KMFE 20		HN 20	HMV 20E	BH 100	C 2220K
KM 20	MB 20	HN 20	HMV 20E	BH 100	22320K • 2320K • 23220K • C 2320K • UK 320
KM 20	MB 20	HN 20	HMV 20E	BH 100	23120K • C 3120KV
KM 21	MB 21	HN 21	HMV 21E	BH 100	1221K • 20221K
KM 21	MB 21	HN 21	HMV 21E	BH 100	20321K • 21321K • 2221K
KM 21	MB 21	HN 21	HMV 21E	BH 100	23221K
KM 22	MB 22	HN 22	HMV 22E	BH 100	1222K • 20222K
KM 22	MB 22	HN 22	HMV 22E	BH 100	1322K • 20322K • 21322K • 22222K • 2222K • 23022K
KMFE 22		HN 22	HMV 22E	BH 100	C 2222K
KM 22	MB 22	HN 22	HMV 22E	BH 100	22322K • 23222K • UK 322
KM 22	MB 22	HN 22	HMV 22E	BH 100	23122K
KM 24	MB 24	HN 24	HMV 24E	BH 100	22324K • 23224K • UK 324
KML 24	MBL 24	HN 22	HMV 24E	BH 100	C 3224K
KML 24	MBL 24	HN 22	HMV 24E	BH 100	1224K • 20224K • 23024K • C 3024KV
KM 24	MB 24	HN 24	HMV 24E	BH 100	20324K • 22224K • 23124K
KML 24	MBL 24	HN 22	HMV 24E	BH 100	C 2224K
KML 24	MBL 24	HN 22	HMV 24E	BH 100	23924K
KM 26	MB 26	HN 26	HMV 26E	BH 100	22326K • 23226K • UK 326
KML 26	MBL 26	HN 26	HMV 26E	BH 100	C 3226K
KML 26	MBL 26	HN 24	HMV 26E	BH 100	20226K • 23026K • C 3026K
KM 26	MB 26	HN 26	HMV 26E	BH 100	20326K • 22226K • 23126K
KML 26	MBL 26	HN 24	HMV 26E	BH 100	C 2226K
KML 26	MBL 26	HN 24	HMV 26E	BH 100	23926K
KM 28	MB 28	HN 28	HMV 28E	BH 100	22328K • 23228K • UK 328
KML 28	MBL 28	HN 28	HMV 28E	BH 100	C 3228K
KML 28	MBL 28	HN 26	HMV 28E	BH 100	20228K • 23028K • C 3028K
KM 28	MB 28	HN 28	HMV 28E	BH 100	20328K • 22228K • 23128K
KML 28	MBL 28	HN 26	HMV 28E	BH 100	C 2228K
KML 28	MBL 28	HN 26	HMV 28E	BH 100	23928K
KM 30	MB 30	HN 30	HMV 30E	BH 100	22330K • 23230K
KML 30	MBL 30	HN 28	HMV 30E	BH 100	20230K • 23030K
KM 30	MB 30	HN 30	HMV 30E	BH 100	20330K • 22230K • 23130K

ADAPTER SLEEVE H, OH, H... for

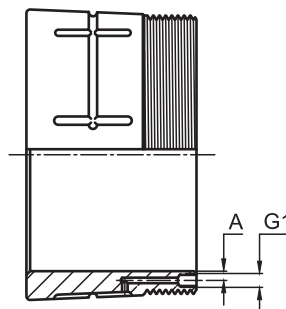
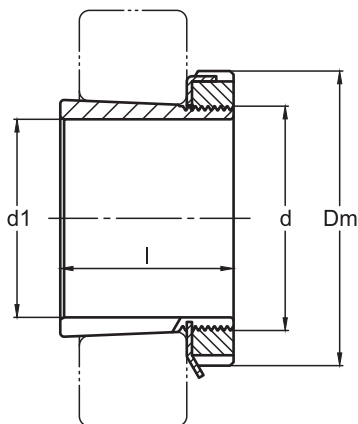


ADAPTER SLEEVE H WITH MS

Code	Code (hydraulics)	d1 (mm)	d2 (mm)	Thread* (mm)	l (mm)	Dm (mm)	Weight (Kg)	HIDRAULIC (A) G1		Extension tube
H 3130 L		135	150	M 150X2	111	180	5.01			
H 3930		135	150	M 150X2	76	180	3.57			
H 2332	OH 2332H	140	160	M 160X3	147	210	8.15	4.0	M6	TE M6 01 ou 02
H 2332 L	OH 2332HL	140	160	M 160X3	147	190	8.15	4.0	M6	TE M6 01 ou 02
H 3032	OH 3032H	140	160	M 160X3	93	190	4.73	4.0	M6	TE M6 01 ou 02
H 3132	OH 3132H	140	160	M 160X3	119	210	6.81	4.0	M6	TE M6 01 ou 02
H 3132 L	OH 3132HL	140	160	M 160X3	119	190	6.81	4.0	M6	TE M6 01 ou 02
H 3932	OH 3932H	140	160	M 160X3	78	190	4.57	4.0	M6	TE M6 01 ou 02
H 2334	OH 2334H	150	170	M 170X3	154	220	9.2	4.0	M6	TE M6 01 ou 02
H 3034	OH 3034H	150	170	M 170X3	101	200	5.45	4.0	M6	TE M6 01 ou 02
H 3134	OH 3134H	150	170	M 170X3	122	220	7.48	4.0	M6	TE M6 01 ou 02
H 3134 L	OH 3134HL	150	170	M 170X3	122	200	6.40	4.0	M6	TE M6 01 ou 02
H 3934	OH 3934H	150	170	M 170X3	79	200	4.95	4.0	M6	TE M6 01 ou 02
H 2336	OH 2336H	160	180	M 180X3	161	230	10.20	4.0	M6	TE M6 01 ou 02
H 3036	OH 3036H	160	180	M 180X3	109	210	6.19	4.0	M6	TE M6 01 ou 02
H 3136	OH 3136H	160	180	M 180X3	131	230	8.48	4.0	M6	TE M6 01 ou 02
H 3136 L	OH 3136HL	160	180	M 180X3	131	210	8.48	4.0	M6	TE M6 01 ou 02
H 3936	OH 3936H	160	180	M 180X3	87	210	5.20	4.0	M6	TE M6 01 ou 02
H 2338	OH 2338H	170	190	M 190X3	169	240	11.40	4.0	M6	TE M6 01 ou 02
H 3038	OH 3038H	170	190	M 190X3	112	220	6.69	4.0	M6	TE M6 01 ou 02
H 3138	OH 3138H	170	190	M 190X3	141	240	9.62	4.0	M6	TE M6 01 ou 02
H 3138 L	OH 3138HL	170	190	M 190X3	141	220	9.62	4.0	M6	TE M6 01 ou 02
H 3938	OH 3938H	170	190	M 190X3	89	220	6.19	4.0	M6	TE M6 01 ou 02
H 2340	OH 2340H	180	200	M 200X3	176	250	12.80	4.0	M6	TE M6 01 ou 02
H 3040	OH 3040H	180	200	M 200X3	120	240	8.26	4.0	M6	TE M6 01 ou 02
H 3140	OH 3140H	180	200	M 200X3	150	250	10.81	4.0	M6	TE M6 01 ou 02
H 3140 L	OH 3140HL	180	200	M 200X3	150	240	11.30	4.0	M6	TE M6 01 ou 02
H 3940	OH 3940H	180	200	M 200X3	98	240	7.89	4.0	M6	TE M6 01 ou 02
H 2344	OH 2344H	200	220	TR 220X4	186	280	15.40	3.7	M6	TE M6 01 ou 02
H 2344 X	OH 2344XH	200	220	TR 220X4	186	280	15.80	3.7	M6	TE M6 01 ou 02
H 3044	OH 3044H	200	220	TR 220X4	126	260	9.20	3.7	M6	TE M6 01 ou 02
H 3144	OH 3144H	200	220	TR 220X4	161	280	13.19	3.7	M6	TE M6 01 ou 02
H 3144 TL	OH 3144HTL	200	220	TR 220X4	161	260	13.19	3.7	M6	TE M6 01 ou 02

* Example of thread code: M 50 x 1,5 M: metric thread, 50: thread diameter, 1,5: thread pitch. TR 300 X 4. TR: trapezoidal metric thread, 300: thread diameter, 4: thread pitch.

* Suffix L: Sleeves assembled with nuts KML and lockwashers MBL. Suffix TL: Sleeves of the serie 3100 assembled with nuts HM 3000 and locking device MS 3000.



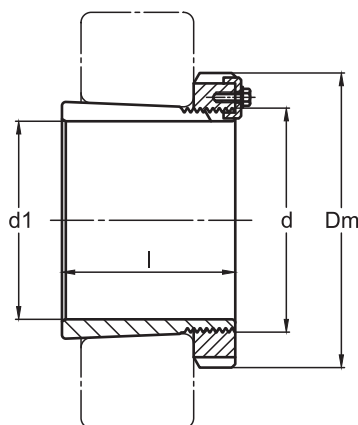
ADAPTER SLEEVE H

OIL GROOVE FOR HYDRAULIC SLEEVES OH...H

TOOLS OF ASSEMBLY AND DISASSEMBLY

Nut for assembly	Locking device	Hook spanner	Hydraulic nut	Hydraulic pump	Bearings
KML 30	MBL 30	HN 28	HMV 30E	BH 100	C 2230K • C 3130K
KML 30	MBL 30	HN 28	HMV 30E	BH 100	23930K
KM 32	MB 32	HN 32	HMV 32E	BH 100	22332K • 23232K
KML 32	MBL 32	HN 29	HMV 32E	BH 100	C 3232K
KML 32	MBL 32	HN 29	HMV 32E	BH 100	20232K • 23032K • C 3032K
KM 32	MB 32	HN 32	HMV 32E	BH 100	20332K • 22232K • 23132K
KML 32	MBL 32	HN 29	HMV 32E	BH 100	C 3132K
KML 32	MBL 32	HN 29	HMV 32E	BH 100	23932K
KM 34	MB 34	HN 34	HMV 34E	BH 100	22334K • 23234K
KML 34	MBL 34	HN 31	HMV 34E	BH 100	20234K • 23034K • C 3034K
KM 34	MB 34	HN 34	HMV 34E	BH 100	20334K • 22234K • 23134K
KML 34	MBL 34	HN 31	HMV 34E	BH 100	C 2234K • C 3134K
KML 34	MBL 34	HN 31	HMV 34E	BH 100	23934K
KM 36	MB 36	HN 36	HMV 36E	BH 100	22336K • 23236K • C 3236K
KML 36	MBL 36	HN 32	HMV 36E	BH 100	20236K • 20336K • 23036K • C 3036K
KM 36	MB 36	HN 36	HMV 36E	BH 100	22236K • 23136K
KML 36	MBL 36	HN 32	HMV 36E	BH 100	C 3136K
KML 36	MBL 36	HN 32	HMV 36E	BH 100	23936K
KM 38	MB 38	HN 38	HMV 38E	BH 100	22338K • 23238K
KML 38	MBL 38	HN 34	HMV 38E	BH 100	20238K • 20338K • 23038K • C 3038K
KM 38	MB 38	HN 38	HMV 38E	BH 100	22238K • 23138K • C 2238K
KML 38	MBL 38	HN 34	HMV 38E	BH 100	C 3138K
KML 38	MBL 38	HN 34	HMV 38E	BH 100	23938K
KM 40	MB 40	HN 40	HMV 40E	BH 100	22340K • 23240K
KML 40	MBL 40	HN 38	HMV 40E	BH 100	20240K • 20340K • 23040K • C 3040K
KM 40	MB 40	HN 40	HMV 40E	BH 100	22240K • 23140K • C 3140K
KML 40	MBL 40	HN 40	HMV 40E	BH 100	C 3140K
KML 40	MBL 40	HN 38	HMV 40E	BH 100	23940K
HM 3144	MS 3144-MS 3148	HN 44	HMV 44E	BH 100	22344K • 23244K
HM 44 T	MB 44	HN 44	HMV 44E	BH 100	22344K • 23244K
HM 3044	MS 3044	HN 44	HMV 44E	BH 100	20244K • 20344K • 23044K • C 3044K
HM 3144	MS 3144-MS 3148	HN 44	HMV 44E	BH 100	22244K • 23144K • C 2244K
HM 3044	MS 3044	HN 44	HMV 44E	BH 100	C 3144K

ADAPTER SLEEVE H, OH, H... for

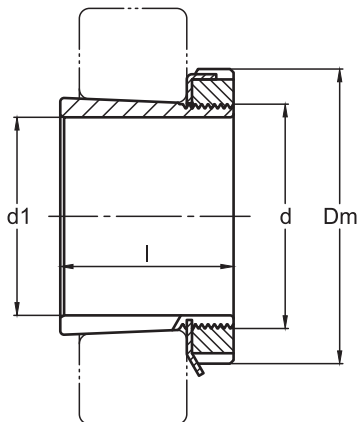


ADAPTER SLEEVE H WITH MS

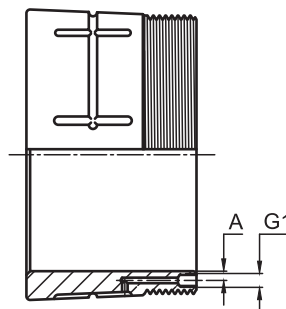
	Code	Code (hydraulics)	d1 (mm)	d2 (mm)	Thread* (mm)	l (mm)	Dm (mm)	Weight (Kg)	HIDRAULIC (A)	G1	Extension tube
	H 3144 X	OH 3144XH	200	220	TR 220X4	161	280	14.00	3.7	M6	TE M6 01 ou 02
	H 3944	OH 3944H	200	220	TR 220X4	96	260	8.16	3.8	M6	TE M6 01 ou 02
	H 2348	OH 2348H	220	240	TR 240X4	199	300	18.00	3.7	M6	TE M6 01 ou 02
	H 2348 X	OH 2348XH	220	240	TR 240X4	199	300	18.00	3.7	M6	TE M6 01 ou 02
	H 3048	OH 3048H	220	240	TR 240X4	133	290	12.80	3.7	M6	TE M6 01 ou 02
	H 3148	OH 3148H	220	240	TR 240X4	172	300	15.80	3.7	M6	TE M6 01 ou 02
	H 3148 TL	OH 3148HTL	220	240	TR 240X4	172	290	15.80	3.7	M6	TE M6 01 ou 02
	H 3148 X	OH 3148XH	220	240	TR 240X4	172	300	16.60	3.7	M6	TE M6 01 ou 02
	H 3948	OH 3948H	220	240	TR 240X4	101	290	10.70	3.8	M6	TE M6 01 ou 02
	H 2352	OH 2352H	240	260	TR 260X4	211	330	22.20	3.7	M6	TE M6 01 ou 02
	H 2352 X	OH 2352XH	240	260	TR 260X4	211	330	22.80	3.7	M6	TE M6 01 ou 02
	H 3052	OH 3052H	240	260	TR 260X4	145	310	14.00	3.7	M6	TE M6 01 ou 02
	H 3152	OH 3152H	240	260	TR 260X4	190	330	20.00	3.7	M6	TE M6 01 ou 02
	H 3152 TL	OH 3152HTL	240	260	TR 260X4	190	310	20.00	3.7	M6	TE M6 01 ou 02
	H 3152 X	OH 3152XH	240	260	TR 260X4	190	330	20.80	3.7	M6	TE M6 01 ou 02
	H 3952	OH 3952H	240	260	TR 260X4	116	310	12.80	3.8	M6	TE M6 01 ou 02
	H 2356	OH 2356H	260	280	TR 280X4	224	350	25.40	3.7	M6	TE M6 01 ou 02
	H 2356 X	OH 2356XH	260	280	TR 280X4	224	350	26.00	3.7	M6	TE M6 01 ou 02
	H 3056	OH 3056H	260	280	TR 280X4	152	330	16.00	3.7	M6	TE M6 01 ou 02
	H 3156	OH 3156H	260	280	TR 280X4	195	350	22.60	3.7	M6	TE M6 01 ou 02
	H 3156 TL	OH 3156HTL	260	280	TR 280X4	195	330	22.60	3.7	M6	TE M6 01 ou 02
	H 3156 X	OH 3156XH	260	280	TR 280X4	195	350	23.00	3.7	M6	TE M6 01 ou 02
	H 3956	OH 3956H	260	280	TR 280X4	121	330	14.80	3.8	M6	TE M6 01 ou 02
	H 3060	OH 3060H	280	300	TR 300X4	168	360	20.80	3.7	M6	TE M6 01 ou 02
	H 3160	OH 3160H	280	300	TR 300X4	208	380	27.40	3.7	M6	TE M6 01 ou 02
	H 3160 TL	OH 3160HTL	280	300	TR 300X4	208	380	25.2	3.7	M6	TE M6 01 ou 02
	H 3260	OH 3260H	280	300	TR 300X4	240	380	34.10	3.7	M6	TE M6 01 ou 02
	H 3960	OH 3960H	280	300	TR 300X4	140	360	19.80	3.8	M6	TE M6 01 ou 02
	H 3064	OH 3064H	300	320	TR 320X5	171	380	22.60	3.5	M6	TE M6 01 ou 02
	H 3164	OH 3164H	300	320	TR 320X5	226	400	31.80	3.5	M6	TE M6 01 ou 02
	H 3164 TL	OH 3164HTL	300	320	TR 320X5	226	400	28.8	23.5	M6	TE M6 01 ou 02
	H 3264	OH 3264H	300	320	TR 320X5	258	400	39.30	3.5	M6	TE M6 01 ou 02
	H 3964	OH 3964H	300	320	TR 320X5	140	380	21.00	3.5	M6	TE M6 01 ou 02

* Example of thread code: TR 300X4: trapezoidal metric thread, 300: thread diameter, 4: thread pitch.

* Suffix TL: Sleeves of the serie 3100 assembled with nuts HM 3000 and locking device MS 3000.



ADAPTER SLEEVE H WITH MS

REPRESENTATION OF
OIL GROOVE FOR HYDRAULIC SLEEVES OH...H

TOOLS OF ASSEMBLY AND DISASSEMBLY

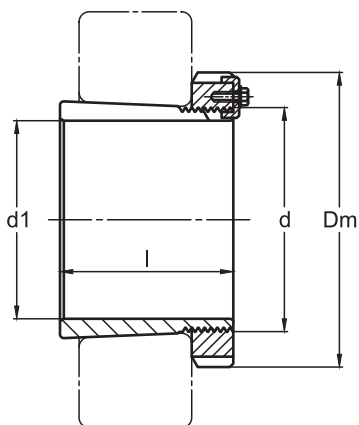
Nut for assembly	Locking device	Hook spanner	Hydraulic nut	Hydraulic pump	Bearings
HM 44T	MB 44	HN 44	HMV 44E	BH 100	22244K • 23144K
HM 3044	MS 3044	HN 44	HMV 44E	BH 100	23944K
HM 3148	MS 3144-MS 3148		HMV 48E	BH 100	22348K • 23248K
HM 48T	MB 48		HMV 48E	BH 100	22348K • 23248K
HM 3048	MS 3048-MS 3052		HMV 48E	BH 100	20248K • 20348K • 23048K • C 3048K
HM 3148	MS 3144-MS 3148		HMV 48E	BH 100	22248K • 23148K
HM 3048	MS 3048-MS 3052		HMV 48E	BH 100	C 3148K
HM 48T	MB 48		HMV 48E	BH 100	22248K • 23148K
HM 3048	MS 3048-MS 3052		HMV 48E	BH 100	23948K
HM 3152	MS 3152-MS 3156		HMV 52E	BH 100	22352K • 23252K
HM 52T	MB 52		HMV 52E	BH 100	22352K • 23252K
HM 3052	MS 3048-MS 3052		HMV 52E	BH 100	20252K • 23052K • C 3052K
HM 3152	MS 3152-MS 3156		HMV 52E	BH 100	22252K • 23152K
HM 3052	MS 3048-MS 3052		HMV 52E	BH 100	C 3152K
HM 52T	MB 52		HMV 52E	BH 100	22252K • 23152K
HM 3052	MS 3048-MS 3052		HMV 52E	BH 100	23952K
HM 3156	MS 3152-MS 3156		HMV 56E	BH 100	22356K • 23256K
HM 56T	MB 56		HMV 56E	BH 100	22356K • 23256K
HM 3056	MS 3056		HMV 56E	BH 100	20256K • 23056K • C 3056K
HM 3156	MS 3152-MS 3156		HMV 56E	BH 100	22256K • 23156K
HM 3056	MS 3056		HMV 56E	BH 100	C 3156K
HM 56T	MB 56		HMV 56E	BH 100	22256K • 23156K
HM 3056	MS 3056		HMV 56E	BH 100	23956K
HM 3060	MS 3060		HMV 60E	BH 100	23060K • C 3060K
HM 3160	MS 3160		HMV 60E	BH 100	22260K • 23160K • C 3160K
HM 3060	MS 3060				22260K • 23160K • C 3160K
HM 3160	MS 3160		HMV 60E	BH 100	22360K • 23260K
HM 3060	MS 3060		HMV 60E	BH 100	23960K
HM 3064	MS 3064-MS 3068		HMV 64E	BH 100	23064K • C 3064K
HM 3164	MS 3164		HMV 64E	BH 100	22264K • 23164K • C 3164K
HM 3064	MS 3064-MS 3068		HMV 64E	BH 100	22264K • 23164K • C 3164K
HM 3164	MS 3164		HMV 64E	BH 100	22364K • 23264K
HM 3064	MS 3064-MS 3068		HMV 64E	BH 100	23964K

ADAPTER SLEEVE H, OH, H... for

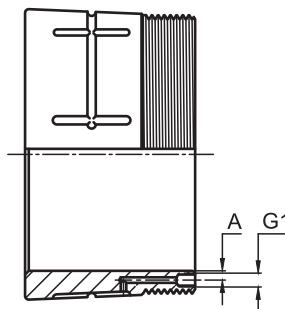
Code	Code (hydraulics)	d1 (mm)	d2 (mm)	Thread* (mm)	l (mm)	Dm (mm)	Weight (Kg)	HIDRAULIC (A)	G1	Extension tube
H 3068	OH 3068H	320	340	TR 340X5	187	400	26.40	3.5	M6	TE M6 01 ou 02
H 3168	OH 3168H	320	340	TR 340X5	254	440	45.40	3.5	M6	TE M6 01 ou 02
H 3168 TL	OH 3168HTL	320	340	TR 340X5	254	440	34.04	3.5	M6	TE M6 01 ou 02
H 3268	OH 3268H	320	340	TR 340X5	288	440	54.60	3.5	M6	TE M6 01 ou 02
H 3968	OH 3968H	320	340	TR 340X5	144	400	23.50	3.5	M6	TE M6 01 ou 02
H 3072	OH 3072H	340	360	TR 360X5	188	420	27.40	3.5	M6	TE M6 01 ou 02
H 3172	OH 3172H	340	360	TR 360X5	259	460	50.00	3.5	M6	TE M6 01 ou 02
H 3172 E	OH 3172HE	340	360	TR 360X5	259	460	50.40	3.5	M6	TE M6 01 ou 02
H 3172 TL	OH 3172HTL	340	360	TR 360X5	259	460	36.60	3.5	M6	TE M6 01 ou 02
H 3272	OH 3272H	340	360	TR 360X5	299	460	60.60	3.5	M6	TE M6 01 ou 02
H 3972	OH 3972H	340	360	TR 360X5	144	420	24.50	3.5	M6	TE M6 01 ou 02
H 3972 E	OH 3972HE	340	360	TR 360X5	144	420	24.50	3.5	M6	TE M6 01 ou 02
H 3076	OH 3076H	360	380	TR 380X5	193	450	32.80	3.5	M6	TE M6 01 ou 02
H 3176	OH 3176H	360	380	TR 380X5	264	490	56.20	3.5	M6	TE M6 01 ou 02
H 3176 E	OH 3176HE	360	380	TR 380X5	264	490	55.40	3.5	M6	TE M6 01 ou 02
H 3176 TL	OH 3176HTL	360	380	TR 380X5	264	490	42.60	3.5	M6	TE M6 01 ou 02
H 3276	OH 3276H	360	380	TR 380X5	310	490	69.60	3.5	M6	TE M6 01 ou 02
H 3976	OH 3976H	360	380	TR 380X5	164	450	31.50	3.5	M6	TE M6 01 ou 02
H 3976 E	OH 3976HE	360	380	TR 380X5	164	450	31.50	3.5	M6	TE M6 01 ou 02
H 3080	OH 3080H	380	400	TR 400X5	210	470	38.00	3.5	M6	TE M6 01 ou 02
H 3180	OH 3180H	380	400	TR 400X5	272	520	63.80	3.5	M6	TE M6 01 ou 02
H 3180 E	OH 3180HE	380	400	TR 400X5	272	520	65.70	3.5	M6	TE M6 01 ou 02
H 3180 TL	OH 3180HTL	380	400	TR 400X5	272	520	46.20	3.5	M6	TE M6 01 ou 02
H 3280	OH 3280H	380	400	TR 400X5	328	520	75.20	3.5	M6	TE M6 01 ou 02
H 3980	OH 3980H	380	400	TR 400X5	168	470	35.00	3.5	M6	TE M6 01 ou 02
H 3980 E	OH 3980HE	380	400	TR 400X5	168	470	35.00	3.5	M6	TE M6 01 ou 02
H 3084	OH 3084H	400	420	TR 420X5	212	490	40.00	3.5	M6	TE M6 01 ou 02
H 3184	OH 3184H	400	420	TR 420X5	304	540	77.40	3.5	M6	TE M6 01 ou 02
H 3184 TL	OH 3184HTL	400	420	TR 420X5	304	540	60.60	3.5	M6	TE M6 01 ou 02
H 3284	OH 3284H	400	420	TR 420X5	352	540	94.00	3.5	M6	TE M6 01 ou 02
H 3984	OH 3984H	400	420	TR 420X5	168	490	36.60	3.5	M6	TE M6 01 ou 02
H 3984 E	OH 3984HE	400	420	TR 420X5	168	490	36.60	3.5	M6	TE M6 01 ou 02
H 3088	OH 3088H	410	440	TR 440X5	228	520	65.20	6.0	M8	TE M8 01
H 3188	OH 3188H	410	440	TR 440X5	307	560	104.00	6.0	M8	TE M8 01

* Example of thread code: TR 300X4: trapezoidal metric thread, 300: thread diameter, 4: thread pitch.

* Suffix TL: Sleeves assembled with nuts HM 3000 and locking device MS 3000. Suffix HE: Sleeves adequate for bearings of tapered bore, with toroidal rollers (CARB), and assembled with nuts HME.



ADAPTER SLEEVE H WITH MS

REPRESENTATION OF
OIL GROOVE FOR HYDRAULIC SLEEVES OH...H

TOOLS OF ASSEMBLY AND DISASSEMBLY

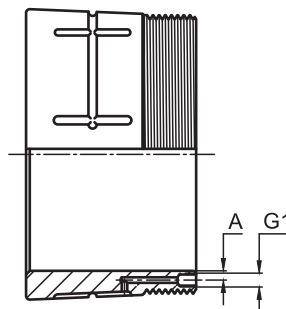
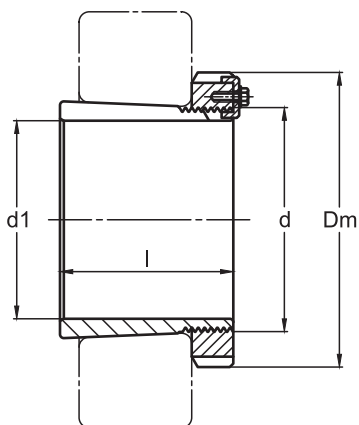
Nut for assembly	Locking device	Hook spanner	Hydraulic nut	Hydraulic pump	Bearings
HM 3068	MS 3064-MS 3068		HMV 68E	BH 100	23068K • C 3068K
HM 3168	MS 3168-MS 3172		HMV 68E	BH 100	23168K • C 3168K
HM 3068	MS 3064-MS 3068		HMV 68E	BH 100	23168K • C 3168K
HM 3168	MS 3168-MS 3172		HMV 68E	BH 100	22368K • 23268K
HM 3068	MS 3064-MS 3068		HMV 68E	BH 100	23968K
HM 3072	MS 3072		HMV 72E	BH 100	23072K • C 3072K
HM 3172	MS 3168-MS 3172		HMV 72E	BH 100	23172K • C 3172K
HME 3172	MS 3172-68		HMV 72E	BH 100	C 3172KMB
HM 3072	MS 3072		HMV 72E	BH 100	23172K • C 3172K
HM 3172	MS 3168-MS 3172		HMV 72E	BH 100	22372K • 23272K
HM 3072	MS 3072		HMV 72E	BH 100	23972K • C 3972
HME 3072	MS 3072		HMV 72E	BH 100	C 3972K
HM 3076	MS 3076-MS 3080		HMV 76E	BH 100	23076K • C 3076K
HM 3176	MS 3176		HMV 76E	BH 100	23176K
HME 3176	MS 3176		HMV 76E	BH 100	C 3176KMB
HM 3076	MS 3076-MS 3080		HMV 76E	BH 100	23176K
HM 3176	MS 3176		HMV 76E	BH 100	22376K • 23276K
HM 3076	MS 3076-MS 3080		HMV 76E	BH 100	23976K • C 3976
HME 3076	MS 3080-76		HMV 76E	BH 100	C 3976KMB
HM 3080	MS 3076-MS 3080		HMV 80E	BH 100	23080K • C 3080K
HM 3180	MS 3180-MS 3184		HMV 80E	BH 100	23180K
HME 3180	MS 3184-80		HMV 80E	BH 100	C 3180KMB
HM 3080	MS 3076-MS 3080		HMV 80E	BH 100	23180K
HM 3180	MS 3180-MS 3184		HMV 80E	BH 100	22380K • 23280K
HM 3080	MS 3076-MS 3080		HMV 80E	BH 100	23980K
HME 3080	MS 3080-76		HMV 80E	BH 100	C 3980KMB
HM 3084	MS 3084		HMV 84E	BH 100	23084K • C 3084K
HM 3184	MS 3180-MS 3184		HMV 84E	BH 100	23184K • C 3184K
HM 3084	MS 3084		HMV 84E	BH 100	23184K • C 3184K
HM 3184	MS 3180-MS 3184		HMV 84E	BH 100	22384K • 23284K
HM 3084	MS 3084		HMV 84E	BH 100	23984K
HME 3084	MS 3084		HMV 84E	BH 100	C3984KMB
HM 3088	MS 3088-MS 3092		HMV 88E	BH 100	23088K
HM 3188	MS 3188-MS 3192		HMV 88E	BH 100	23188K

ADAPTER SLEEVE H, OH, H... for

Code	Code (hydraulics)	d1 (mm)	d2 (mm)	Thread* (mm)	l (mm)	Dm (mm)	Weight (Kg)	HIDRAULIC (A)	G1)	Extension tube
H 3188 E	OH 3188HE	410	440	TR 440X5	307	560	85.50	6.0	M8	TE M8 01
H 3188 TL	OH 3188HTL	410	440	TR 440X5	307	560	77.00	6.0	M8	TE M8 01
H 3288	OH 3288H	410	440	TR 440X5	361	560	118.00	6.0	M8	TE M8 01
H 3988	OH 3988H	410	440	TR 440X5	189	520	57.30	6.0	M8	TE M8 01
H 3988 E	OH 3988HE	410	440	TR 440X5	189	520	57.30	6.0	M8	TE M8 01
H 3092	OH 3092H	430	460	TR 460X5	234	540	69.50	6.0	M8	TE M8 01
H 3192	OH 3192H	430	460	TR 460X5	326	580	107.60	6.0	M8	TE M8 01
H 3192 TL	OH 3192HTL	430	460	TR 460X5	326	580	84.80	6.0	M8	TE M8 01
H 3292	OH 3292H	430	460	TR 460X5	382	580	132.00	6.0	M8	TE M8 01
H 3992	OH 3992H	430	460	TR 460X5	189	540	59.90	6.0	M8	TE M8 01
H 3096	OH 3096H	450	480	TR 480X5	237	560	73.30	6.0	M8	TE M8 01
H 3196	OH 3196H	450	480	TR 480X5	335	620	133.00	6.0	M8	TE M8 01
H 3196 E	OH 3196HE	450	480	TR 480X5	335	620	121.50	6.0	M8	TE M8 01
H 3196 TL	OH 3196HTL	450	480	TR 480X5	335	620	89.70	6.0	M8	TE M8 01
H 3296	OH 3296H	450	480	TR 480X5	397	620	152.00	6.0	M8	TE M8 01
H 3996	OH 3996H	450	480	TR 480X5	200	560	64.90	6.0	M8	TE M8 01
H 30/500	OH 30/500H	470	500	TR 500X5	247	580	81.80	6.0	M8	TE M8 01
H 31/500	OH 31/500H	470	500	TR 500X5	356	630	132.80	6.0	M8	TE M8 01
H 31/500 TL	OH 31/500HTL	470	500	TR 500X5	356	630	103.80	6.0	M8	TE M8 01
H 32/500	OH 32/500H	470	500	TR 500X5	428	630	166.00	6.0	M8	TE M8 01
H 39/500	OH 39/500H	470	500	TR 500X5	208	580	73.10	6.0	M8	TE M8 01
H 39/500 E	OH 39/500HE	470	500	TR 500X5	208	580	73.10	6.0	M8	TE M8 01
H 30/530	OH 30/530H	500	530	TR 530X6	265	630	100.00	5.6	M8	TE M8 01
H 31/530	OH 31/530H	500	530	TR 530X6	364	670	147.80	5.5	M8	TE M8 01
H 31/530 TL	OH 31/530HTL	500	530	TR 530X6	364	670	119.80	5.5	M8	TE M8 01
H 32/530	OH 32/530H	500	530	TR 530X6	447	670	191.00	5.7	M8	TE M8 01
H 39/530	OH 39/530H	500	530	TR 530X6	216	630	86.90	5.7	M8	TE M8 01
H 39/530 E	OH 39/530HE	500	530	TR 530X6	216	630	86.90	5.7	M8	TE M8 01
H 30/560	OH 30/560H	530	560	TR 560X6	282	650	110.00	5.6	M8	TE M8 01
H 31/560	OH 31/560H	530	560	TR 560X6	377	710	185.00	5.6	M8	TE M8 01
H 31/560 E	OH 31/560HE	530	560	TR 560X6	377	710	166.50	5.6	M8	TE M8 01
H 31/560 TL	OH 31/560HTL	530	560	TR 560X6	377	710	157.40	5.6	M8	TE M8 01
H 32/560	OH 32/560H	530	560	TR 560X6	462	710	217.00	5.6	M8	TE M8 01
H 39/560	OH 39/560H	530	560	TR 560X6	227	650	93.30	5.6	M8	TE M8 01

* Example of thread code: TR 300X4: trapezoidal metric thread, 300: thread diameter, 4: thread pitch.

* Suffix TL: Sleeves assembled with nuts HM 3000 and locking device MS 3000. Suffix HE: Sleeves adequate for bearings of tapered bore, with toroidal rollers (CARB), and assembled with nuts HME.



ADAPTER SLEEVE H WITH MS

REPRESENTATION OF
OIL GROOVE FOR HYDRAULIC SLEEVES OH...H

TOOLS OF ASSEMBLY AND DISASSEMBLY

Nut for assembly	Locking device	Hook spanner	Hydraulic nut	Hydraulic pump	Bearings
HME 3188	MS 3192-88		HMV 88E	BH 100	C 3188KMB
HM 3088	MS 3088-MS 3092		HMV 88E	BH 100	23188K
HM 3188	MS 3188-MS 3192		HMV 88E	BH 100	22388K • 23288K
HM 3088	MS 3088-MS 3092		HMV 88E	BH 100	23988K
HME 3088	MS 3092-88		HMV 88E	BH 100	C 3988KMB
HM 3092	MS 3088-MS 3092		HMV 92E	BH 100	23092K • C 3092K
HM 3192	MS 3188-MS 3192		HMV 92E	BH 100	23192K • C 3192K
HM 3092	MS 3088-MS 3092		HMV 92E	BH 100	23192K • C 3192K
HM 3192	MS 3188-MS 3192		HMV 92E	BH 100	22392K • 23292K
HM 3092	MS 3088-MS 3092		HMV 92E	BH 100	23992K
HM 3096	MS 3096-30/500		HMV 96E	BH 100	23096K • C 3096K
HM 3196	MS 3196		HMV 96E	BH 100	23196K
HME 3196	MS 3196		HMV 96E	BH 100	C 3196KMB
HM 3096	MS 3096-30/500			BH 100	23196K
HM 3196	MS 3196		HMV 96E	BH 100	22396K • 23296K
HM 3096	MS 3096-30/500		HMV 96E	BH 100	23996K • C 3996K
HM 30/500	MS 3096-30/500		HMV 100E	BH 100	230/500K • C 30/500K
HM 31/500	MS 31/500		HMV 100E	BH 100	231/500K • C 31/500K
HM 30/500	MS 3096-30/500			BH 100	231/500K • C 31/500K
HM 31/500	MS 31/500		HMV 100E	BH 100	223/500K • 232/500K
HM 30/500	MS 3096-30/500		HMV 100E	BH 100	239/500K
HME 30/500	MS 30/500-96		HMV 100E	BH 100	C 39/500K
HM 30/530	MS 30/530-600		HMV 106E	BH 100	230/530K • C 30/530K
HM 31/530	MS 31/530		HMV 106E	BH 100	222/530K • 231/530K • C 31/530K
HM 30/530	MS 30/530-30/600			BH 100	222/530K • 231/530K • C 31/530K
HM 31/530	MS 31/530		HMV 106E	BH 100	223/530K • 232/530K
HM 30/530	MS 30/530-600		HMV 106E	BH 100	239/530K
HME 30/530	MS 30/600-530		HMV 106E	BH 100	C 39/530K
HM 30/560	MS 30/560		HMV 112E	BH 100	230/560K • C 30/560K
HM 31/560	MS 31/560-600		HMV 112E	BH 100	222/560K • 231/560K
HME 31/560	MS 31/600-560		HMV 112E	BH 100	C 31/560KMB
HM 30/560	MS 30/560		HMV 112E	BH 100	222/560K • 231/560K
HM 31/560	MS 31/560-600		HMV 112E	BH 100	223/560K • 232/560K
HM 30/560	MS 30/560		HMV 112E	BH 100	239/560K

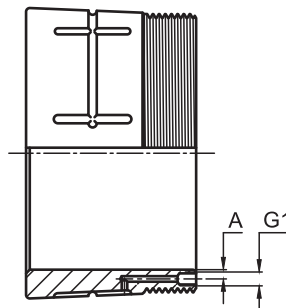
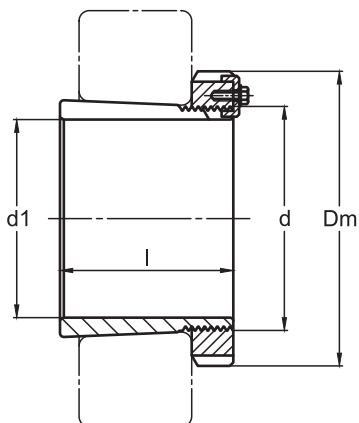
ADAPTER SLEEVE

H, OH, H... for

Code	Code (hydraulics)	d1 (mm)	d2 (mm)	Thread* (mm)	l (mm)	Dm (mm)	Weight (Kg)	HIDRAULIC (A)		Extension tube
H 39/560 E	OH 39/560HE	530	560	TR 560X6	227	650	93.30	5.6	M8	TE M8 01
H 30/600	OH 30/600H	560	600	TR 600X6	289	700	146.0	8.1	G1/8"	TE 1/8 BSP 01
H 31/600	OH 31/600H	560	600	TR 600X6	399	750	234.0	8.1	G1/8"	TE 1/8 BSP 01
H 31/600 E	OH 31/600HE	560	600	TR 600X6	399	750	210.6	8.1	G1/8"	TE 1/8 BSP 01
H 31/600 TL	OH 31/600HTL	560	600	TR 600X6	399	750	189.1	8.1	G1/8"	TE 1/8 BSP 01
H 32/600	OH 32/600H	560	600	TR 600X6	487	750	278.0	8.1	G1/8"	TE 1/8 BSP 01
H 39/600	OH 39/600H	560	600	TR 600X6	239	700	127.0	8.1	G1/8"	TE 1/8 BSP 01
H 39/600 E	OH 39/600HE	560	600	TR 600X6	239	700	127.0	8.1	G1/8"	TE 1/8 BSP 01
H 30/630	OH 30/630H	600	630	TR 630X6	301	730	136.0	5.6	M8	TE M8 01
H 31/630	OH 31/630H	600	630	TR 630X6	424	800	252.0	5.6	M8	TE M8 01
H 31/630 E	OH 31/630HE	600	630	TR 630X6	424	800	228.6	5.6	M8	TE M8 01
H 31/630 TL	OH 31/630HTL	600	630	TR 630X6	424	800	176.4	5.6	M8	TE M8 01
H 32/630	OH 32/630H	600	630	TR 630X6	521	800	298.0	5.6	M8	TE M8 01
H 39/630	OH 39/630H	600	630	TR 630X6	254	730	120.0	5.6	M8	TE M8 01
H 39/630 E	OH 39/630HE	600	630	TR 630X6	254	730	120.0	5.6	M8	TE M8 01
H 30/670	OH 30/670H	630	670	TR 670X6	324	780	191.0	8.1	G1/8"	TE 1/8 BSP 01
H 31/670	OH 31/670H	630	670	TR 670X6	456	850	344.0	8.1	G1/8"	TE 1/8 BSP 01
H 31/670 E	OH 31/670HE	630	670	TR 670X6	456	850	306.0	8.1	G1/8"	TE 1/8 BSP 01
H 31/670 TL	OH 31/670HTL	630	670	TR 670X6	456	850	248.2	8.1	G1/8"	TE 1/8 BSP 01
H 32/670	OH 32/670H	630	670	TR 670X6	558	850	404.0	8.1	G1/8"	TE 1/8 BSP 01
H 39/670	OH 39/670H	630	670	TR 670X6	264	780	163.0	8.1	G1/8"	TE 1/8 BSP 01
H 30/710	OH 30/710H	670	710	TR 710X7	342	830	223.0	7.9	G1/8"	TE 1/8 BSP 01
H 31/710	OH 31/710H	670	710	TR 710X7	467	900	378.0	7.9	G1/8"	TE 1/8 BSP 01
H 31/710 TL	OH 31/710HTL	670	710	TR 710X7	467	900	288.7	7.9	G1/8"	TE 1/8 BSP 01
H 32/710	OH 32/710H	670	710	TR 710X7	572	900	444.0	7.9	G1/8"	TE 1/8 BSP 01
H 39/710	OH 39/710H	670	710	TR 710X7	286	830	196.0	7.9	G1/8"	TE 1/8 BSP 01
H 39/710 E	OH 39/710HE	670	710	TR 710X7	286	830	196.0	7.9	G1/8"	TE 1/8 BSP 01
H 30/750	OH 30/750H	710	750	TR 750X7	356	870	243.0	7.9	G1/8"	TE 1/8 BSP 01
H 31/750	OH 31/750H	710	750	TR 750X7	493	950	452.0	7.9	G1/8"	TE 1/8 BSP 01
H 31/750 TL	OH 31/750HTL	710	750	TR 750X7	493	950	332.6	7.9	G1/8"	TE 1/8 BSP 01
H 32/750	OH 32/750H	710	750	TR 750X7	603	950	507.0	7.9	G1/8"	TE 1/8 BSP 01
H 39/750	OH 39/750H	710	750	TR 750X7	291	870	209.0	7.8	G1/8"	TE 1/8 BSP 01
H 39/750 E	OH 39/750HE	710	750	TR 750X7	291	870	189.9	7.9	G1/8"	TE 1/8 BSP 01
H 30/800	OH 30/800H	750	800	TR 800X7	366	920	300.0	10.4	G1/8"	TE 1/8 BSP 01
H 31/800	OH 31/800H	750	800	TR 800X7	505	1000	515.0	10.4	G1/8"	TE 1/8 BSP 01

* Example of thread code: TR 300X4: trapezoidal metric thread, 300: thread diameter, 4: thread pitch.

* Suffix TL: Sleeves assembled with nuts HM 3000 and locking device MS 3000. Suffix HE: Sleeves adequate for bearings of tapered bore, with toroidal rollers (CARB), and assembled with nuts HME.



ADAPTER SLEEVE H WITH MS OIL GROOVE FOR HYDRAULIC SLEEVES OH...H

TOOLS OF ASSEMBLY AND DISASSEMBLY

Nut for assembly	Locking device	Hook spanner	Hydraulic nut	Hydraulic pump	Bearings
HME 30/560	MS 30/560		HMV 112E	BH 100	C 39/560K
HM 30/600	MS 30/530-600		HMV 120E	BH 100	230/600K • C 30/600K
HM 31/600	MS 31/560-600		HMV 120E	BH 100	222/600K • 231/600K
HME 31/600	MS 31/600-560		HMV 120E	BH 100	C 31/600KMB
HM 30/600	MS 30/530-30/600			BH 100	222/600K • 231/600K
HM 31/600	MS 31/560-600		HMV 120E	BH 100	223/600K • 232/600K
HM 30/600	MS 30/530-600		HMV 120E	BH 100	239/600K
HME 30/600	MS 30/600-530		HMV 120E	BH 100	C 39/600K
HM 30/630	MS 30/630		HMV 126E	BH 100	230/630K • C 30/630K
HM 31/630	MS 31/630		HMV 126E	BH 100	222/630K • 231/630K
HME 31/630	MS 31/630		HMV 126E	BH 100	C 31/630KMB
HM 30/630	MS 30/630			BH 100	222/630K • 231/630K
HM 31/630	MS 31/630		HMV 126E	BH 100	223/630K • 232/630K
HM 30/630	MS 30/630		HMV 126E	BH 100	239/630K
HME 30/630	MS 30/630		HMV 126E	BH 100	C 39/630K
HM 30/670	MS 30/670		HMV 134E	BH 160	230/670K • C 30/670K
HM 31/670	MS 31/670		HMV 134E	BH 160	222/670K • 231/670K
HME 31/670	MS 31/670		HMV 134E	BH 160	C 31/670KMB
HM 30/670	MS 30/670		HMV 134E	BH 160	222/670K • 231/670K
HM 31/670	MS 31/670		HMV 134E	BH 160	223/670K • 232/670K
HM 30/670	MS 30/670		HMV 134E	BH 160	239/670K • C 39/670K
HM 30/710	MS 30/710		HMV 142E	BH 160	230/710K • C 30/710K
HM 31/710	MS 31/710		HMV 142E	BH 160	222/710K • 231/710K
HM 30/710	MS 30/710		HMV 142E	BH 160	222/710K • 231/710K
HM 31/710	MS 31/710		HMV 142E	BH 160	223/710K • 232/710K
HM 30/710	MS 30/710		HMV 142E	BH 160	239/710K
HME 30/710	MS 30/710		HMV 142E	BH 160	C 39/710K
HM 30/750	MS 30/750-800		HMV 150E	BH 160	230/750K
HM 31/750	MS 31/750-800		HMV 150E	BH 160	222/750K • 231/750K
HM 30/750	MS 30/750-800		HMV 150E	BH 160	222/750K • 231/750K
HM 31/750	MS 31/750-800		HMV 150E	BH 160	223/750K • 232/750K
HM 30/750	MS 30/750-800		HMV 150E	BH 160	239/750K
HME 30/750	MS 30/800-750		HMV 150E	BH 160	C 39/750K
HM 30/800	MS 30/750-800		HMV 160E	BH 160	230/800K
HM 31/800	MS 31/750-800		HMV 160E	BH 160	222/800K • 231/800K

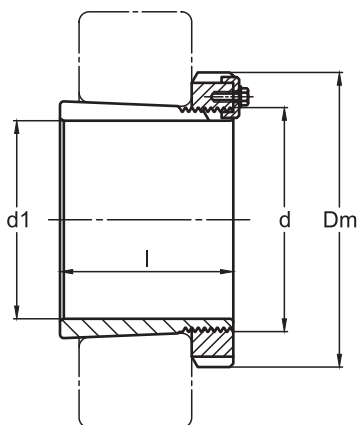
ADAPTER SLEEVE

H, OH, H... for

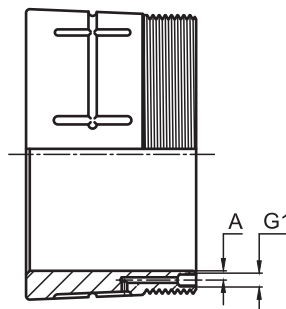
Code	Code (hydraulics)	d1 (mm)	d2 (mm)	Thread* (mm)	l (mm)	Dm (mm)	Weight (Kg)	HIDRAULIC (A)	G1/8"	Extension tube
H 31/800 TL	OH 31/800HTL	750	800	TR 800X7	505	1000	388.2	10.4	G1/8"	TE 1/8 BSP 01
H 32/800	OH 32/800H	750	800	TR 800X7	618	1000	610.0	10.4	G1/8"	TE 1/8 BSP 01
H 39/800	OH 39/800H	750	800	TR 800X7	303	920	258.0	10.3	G1/8"	TE 1/8 BSP 01
H 30/850	OH 30/850H	800	850	TR 850X7	380	980	339.0	10.4	G1/8"	TE 1/8 BSP 01
H 31/850	OH 31/850H	800	850	TR 850X7	536	1060	591.0	10.4	G1/8"	TE 1/8 BSP 01
H 31/850 TL	OH 31/850HTL	800	850	TR 850X7	536	1060	455.0	10.4	G1/8"	TE 1/8 BSP 01
H 32/850	OH 32/850H	800	850	TR 850X7	651	1060	696.0	10.4	G1/8"	TE 1/8 BSP 01
H 39/850	OH 39/850H	800	850	TR 850X7	308	980	289.0	10.4	G1/8"	TE 1/8 BSP 01
H 30/900	OH 30/900H	850	900	TR 900X7	400	1030	387.0	10.4	G1/8"	TE 1/8 BSP 01
H 31/900	OH 31/900H	850	900	TR 900X7	557	1120	677.0	10.4	G1/8"	TE 1/8 BSP 01
H 31/900 TL	OH 31/900HTL	850	900	TR 900X7	557	1120	513.0	10.4	G1/8"	TE 1/8 BSP 01
H 32/900	OH 32/900H	850	900	TR 900X7	660	1120	776.0	10.4	G1/8"	TE 1/8 BSP 01
H 39/900	OH 39/900H	850	900	TR 900X7	326	1030	330.0	10.4	G1/8"	TE 1/8 BSP 01
H 30/950	OH 30/950H	900	950	TR 950X8	420	1080	424.0		G1/8"	TE 1/8 BSP 01
H 31/950	OH 31/950H	900	950	TR 950X8	583	1170	738.0		G1/8"	TE 1/8 BSP 01
H 31/950 TL	OH 31/950HTL	900	950	TR 950X8	583	1170	565.0		G1/8"	TE 1/8 BSP 01
H 32/950	OH 32/950H	900	950	TR 950X8	675	1170	834.0		G1/8"	TE 1/8 BSP 01
H 39/950	OH 39/950H	900	950	TR 950X8	344	1080	362.0		G1/8"	TE 1/8 BSP 01
H 39/950 E	OH 39/950HE	900	950	TR 950X8	344	1080	362.0		G1/8"	TE 1/8 BSP 01
H 30/1000	OH 30/1000H	950	1000	TR 1000X8	430	1140	470.0		G1/8"	TE 1/8 BSP 01
H 31/1000	OH 31/1000H	950	1000	TR 1000X8	609	1240	842.0		G1/8"	TE 1/8 BSP 01
H 31/1000 E	OH 31/1000HE	950	1000	TR 1000X8	609	1240	757.8		G1/8"	TE 1/8 BSP 01
H 31/1000TL	OH 31/1000HTL	950	1000	TR 1000X8	609	1240	623.6		G1/8"	TE 1/8 BSP 01
H 32/1000	OH 32/1000H	950	1000	TR 1000X8	707	1240	952.0		G1/8"	TE 1/8 BSP 01
H 39/1000	OH 39/1000 H	950	1000	TR 1000X8	358	1140	407.0		G1/8"	TE 1/8 BSP 01
H 30/1060	OH 30/1060H	1000	1060	TR 1060X8	447	1200	571.0		G1/4"	TE 1/4 BSP 01
H 31/1060	OH 31/1060H	1000	1060	TR 1060X8	622	1300	984.0		G1/8"	TE 1/8 BSP 01
H 31/1060TL	OH 31/1060HTL	1000	1060	TR 1060X8	622	1300	768.0		G1/8"	TE 1/8 BSP 01
H 39/1060	OH 39/1060H	1000	1060	TR 1060X8	372	1200	490.0		G1/4"	TE 1/4 BSP 01
H 39/1060 E	OH 39/1060HE	1000	1060	TR 1060X8	372	1200	490.0		G1/4"	TE 1/4 BSP 01
H 39/1120	OH 39/1120H	1060	1120	TR 1120X8	372	1260	520.0		G1/4"	TE 1/4 BSP 01

* Example of thread code: TR 300X4: trapezoidal metric thread, 300: thread diameter, 4: thread pitch.

* Suffix TL: Sleeves assembled with nuts HM 3000 and locking device MS 3000. Suffix HE: Sleeves adequate for bearings of tapered bore, with toroidal rollers (CARB), and assembled with nuts HME.



ADAPTER SLEEVE H WITH MS

REPRESENTATION OF
OIL GROOVE FOR HYDRAULIC SLEEVES OH...H

TOOLS OF ASSEMBLY AND DISASSEMBLY

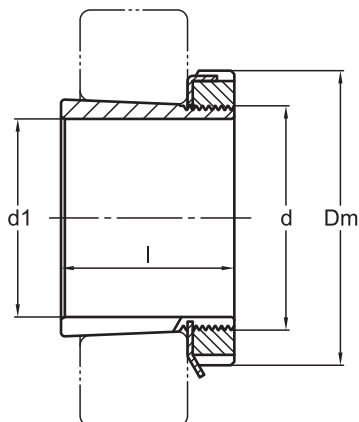
Nut for assembly	Locking device	Hook spanner	Hydraulic nut	Hydraulic pump	Bearings
HM 30/800	MS 30/750-800		HMV 160E	BH 160	222/800K • 231/800K
HM 31/800	MS 31/750-800		HMV 160E	BH 160	232/800K
HM 30/800	MS 30/750-800		HMV 160E	BH 160	239/800K
HM 30/850	MS 30/850-900		HMV 170E	BH 160	230/850K
HM 31/850	MS 31/850		HMV 170E	BH 160	222/850K • 231/850K
HM 30/850	MS 30/850-900		HMV 170E	BH 160	222/850K • 231/850K
HM 31/850	MS 31/850		HMV 170E	BH 160	232/850K
HM 30/850	MS 30/850-900		HMV 170E	BH 160	239/850K
HM 30/900	MS 30/850-900		HMV 180E	BH 160	230/900K • C 30/900K
HM 31/900	MS 31/900		HMV 180E	BH 160	222/900K • 231/900K
HM 30/900	MS 30/850-900		HMV 180E	BH 160	222/900K • 231/900K
HM 31/900	MS 31/900		HMV 180E	BH 160	232/900K
HM 30/900	MS 30/850-900		HMV 180E	BH 160	239/900K
HM 30/950	MS 30/950		HMV 190E	BH 160	230/950K
HM 31/950	MS 31/950		HMV 190E	BH 160	222/950K • 231/950K
HM 30/950	MS 30/950		HMV 190E	BH 160	222/950K • 231/950K
HM 31/950	MS 31/950		HMV 190E	BH 160	232/950K
HM 30/950	MS 30/950		HMV 190E	BH 160	239/950K
HME 30/950	MS 30/950		HMV 190E	BH 160	C 39/950KMB
HM 30/1000	MS 30/1000		HMV 200E	BH 160	230/1000K
HM 31/1000	MS 31/1000		HMV 200E	BH 160	222/1000K • 231/1000K
HME 31/1000	MS 31/1000		HMV 200E	BH 160	C 31/1000KMB
HM 30/1000	MS 30/1000		HMV 200E	BH 160	222/1000K • 231/1000K
HM 31/1000	MS 31/1000		HMV 200E	BH 160	232/1000K
HM 30/1000	MS 30/1000		HMV 200E	BH 160	239/1000K
HM 30/1060	MS 30/1000		HMV 212E	BH 160	230/1060K
HM 31/1060	MS 31/1000		HMV 212E	BH 160	222/1060K • 231/1060K
HM 30/1060	MS 30/1000		HMV 212E	BH 160	222/1060K • 231/1060K
HM 30/1060	MS 30/1060		HMV 212E	BH 160	239/1060K
HME 30/1060	MS 30/1000		HMV 212E	BH 160	C 39/1060KMB
HM 30/1120	MS 30/1000		HMV 224E	BH 160	239/1120K

ADAPTER SLEEVE

HE, HS, HA for shafts in inch

Code	Code (hydraulics)	d1 (pol.)	d2 (mm)	Thread* (mm)	l (mm)	Dm (mm)	Weight (Kg)
HE/HS 204		5/8"	20	M 20X1	24	32	0.04
HE/HS 304		5/8"	20	M 20X1	28	32	0.05
HE/HS 2304		5/8"	20	M 20X1	31	32	0.05
HA 204		11/16"	20	M 20X1	24	32	0.04
HA 304		11/16"	20	M 20X1	28	32	0.04
HA 2304		11/16"	20	M 20X1	31	32	0.05
HE 205		3/4"	25	M 25X1,5	26	38	0.07
HE 305		3/4"	25	M 25X1,5	29	38	0.07
HE 2305		3/4"	25	M 25X1,5	35	38	0.08
HS 206		7/8"	30	M 30X1,5	27	45	0.11
HS 306		7/8"	30	M 30X1,5	31	45	0.11
HS 2306		7/8"	30	M 30X1,5	38	45	0.14
HA 206		15/16"	30	M 30X1,5	27	45	0.10
HA 306		15/16"	30	M 30X1,5	31	45	0.11
HA 2306		15/16"	30	M 30X1,5	38	45	0.13
HE 206		1"	30	M 30X1,5	27	45	0.08
HE 306		1"	30	M 30X1,5	31	45	0.09
HE 2306		1"	30	M 30X1,5	38	45	0.10
HE/HS 207		1.1/8"	35	M 35X1,5	29	52	0.13
HE/HS 307		1.1/8"	35	M 35X1,5	35	52	0.14
HE/HS 2307		1.1/8"	35	M 35X1,5	43	52	0.17
HA 207		1.3/16"	35	M 35X1,5	29	52	0.12
HA 307		1.3/16"	35	M 35X1,5	35	52	0.13
HA 2307		1.3/16"	35	M 35X1,5	43	52	0.16
HE 208		1.1/4"	40	M 40X1,5	31	58	0.18
HE 308		1.1/4"	40	M 40X1,5	36	58	0.20
HE 2308		1.1/4"	40	M 40X1,5	46	58	0.25
HA 208		1.5/16"	40	M 40X1,5	31	58	0.17
HA 308		1.5/16"	40	M 40X1,5	36	58	0.18
HA 2308		1.5/16"	40	M 40X1,5	46	58	0.22

* Example of thread code: M 50 x 1,5 M: metric thread, 50: thread diameter, 1,5: thread pitch.



ADAPTER SLEEVE HE, HA, HS

TOOLS OF ASSEMBLY AND DISASSEMBLY

Nut for assembly	Locking device	Hook spanner	Hydraulic nut	Hydraulic pump	Bearings
KM 4	MB 4	HN 4		BH 160	1204K
KM 4	MB 4	HN 4		BH 160	1304K • 2204K
KM 4	MB 4	HN 4		BH 160	2304K
KM 4	MB 4	HN 4		BH 160	1204K
KM 4	MB 4	HN 4		BH 160	1304K • 2204K
KM 4	MB 4	HN 4		BH 160	2304K
KM 5	MB 5	HN 5		BH 160	1205K • 20205K
KM 5	MB 5	HN 5		BH 160	1305K • 20305K • 2205K • 22205K
KM 5	MB 5	HN 5		BH 160	2305K • UK 205 • UK 305
KM 6	MB 6	HN 6		BH 160	1206K • 20206K
KM 6	MB 6	HN 6		BH 160	1306K • 20306K • 2206K • 22206K
KM 6	MB 6	HN 6		BH 160	2306K • UK 206 • UK 306
KM 6	MB 6	HN 6		BH 160	1206K • 20206K
KM 6	MB 6	HN 6		BH 160	1306K • 20306K • 2206K • 22206K
KM 6	MB 6	HN 6		BH 160	2306K • UK 206 • UK 306
KM 6	MB 6	HN 6		BH 160	1206K • 20206K
KM 6	MB 6	HN 6		BH 160	1306K • 20306K • 2206K • 22206K
KM 6	MB 6	HN 6		BH 160	2306K • UK 206 • UK 306
KM 7	MB 7	HN 7		BH 160	1207K • 20207K
KM 7	MB 7	HN 7		BH 160	1307K • 20307K • 2207K • 22207K
KM 7	MB 7	HN 7		BH 160	2307K
KM 7	MB 7	HN 7		BH 160	1207K • 20207K
KM 7	MB 7	HN 7		BH 160	1307K • 20307K • 2207K • 22207K
KM 7	MB 7	HN 7		BH 160	2307K • UK 207 • UK 307
KM 8	MB 8	HN 8		BH 160	1208K • 20208K
KM 8	MB 8	HN 8		BH 160	1308K • 20308K • 21308K • 2208K • 22208K • C 2208K
KM 8	MB 8	HN 8		BH 160	22308K • 2308K • UK 208 • UK 308
KM 8	MB 8	HN 8		BH 160	1208K • 20208K
KM 8	MB 8	HN 8		BH 160	1308K • 20308K • 21308K • 2208K • 22208K • C 2208K
KM 8	MB 8	HN 8		BH 160	22308K • 2308K • UK 208

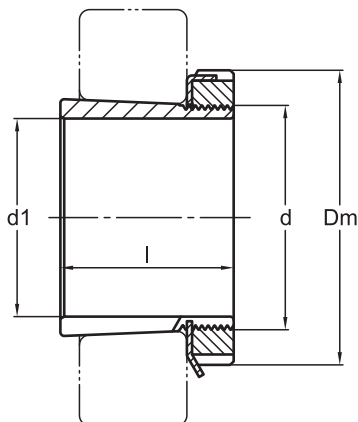

BERTOLOTO & GROTTA

ADAPTER SLEEVE

HE, HS, HA for shafts in inch

Code	Code (hydraulics)	d1 (pol.)	d2 (mm)	Thread* (mm)	l (mm)	Dm (mm)	Weight (Kg)
HS 208		1.3/8"	40	M 40X1,5	31	58	0.15
HS 308		1.3/8"	40	M 40X1,5	36	58	0.16
HS 2308		1.3/8"	40	M 40X1,5	46	58	0.20
HA 209		1.7/16"	45	M 45X1,5	33	65	0.24
HA 309		1.7/16"	45	M 45X1,5	39	65	0.27
HA 2309		1.7/16"	45	M 45X1,5	50	65	0.40
HE 209		1.1/2"	45	M 45X1,5	33	65	0.22
HE 309		1.1/2"	45	M 45X1,5	39	65	0.24
HE 2309		1.1/2"	45	M 45X1,5	50	65	0.29
HS 210		1.5/8"	50	M 50X1,5	35	70	0.27
HS 310		1.5/8"	50	M 50X1,5	42	70	0.33
HS 2310		1.5/8"	50	M 50X1,5	55	70	0.41
HA 210		1.11/16"	50	M 50X1,5	35	70	0.27
HA 310		1.11/16"	50	M 50X1,5	42	70	0.30
HA 2310		1.11/16"	50	M 50X1,5	55	70	0.37
HE 210		1.3/4"	50	M 50X1,5	35	70	0.24
HE 310		1.3/4"	50	M 50X1,5	42	70	0.27
HE 2310		1.3/4"	50	M 50X1,5	55	70	0.33
HS 211		1.7/8"	55	M 55X1,5	37	75	0.32
HS 311		1.7/8"	55	M 55X1,5	45	75	0.36
HS 2311		1.7/8"	55	M 55X1,5	59	75	0.45
HA 211		1.15/16"	55	M 55X1,5	37	75	0.28
HA 311		1.15/16"	55	M 55X1,5	45	75	0.32
HA 2311		1.15/16"	55	M 55X1,5	59	75	0.40
HE 211		2"	55	M 55X1,5	37	75	0.25
HE 311		2"	55	M 55X1,5	45	75	0.29
HE 2311		2"	55	M 55X1,5	59	75	0.34
HE/HS 212		2.1/8"	60	M 60X1,5	38	80	0.32
HE/HS 312		2.1/8"	60	M 60X1,5	47	80	0.37
HE/HS 2312		2.1/8"	60	M 60X1,5	62	80	0.46

* Example of thread code: M 50 x 1,5 M: metric thread, 50: thread diameter, 1,5: thread pitch.



ADAPTER SLEEVE HE, HA, HS

TOOLS OF ASSEMBLY AND DISASSEMBLY

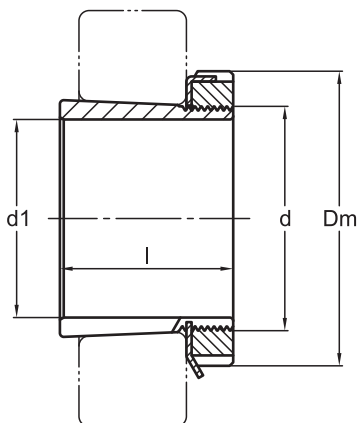
Nut for assembly	Locking device	Hook spanner	Hydraulic nut	Hydraulic pump	Bearings
KM 8	MB 8	HN 8		BH 160	1208K • 20208K
KM 8	MB 8	HN 8		BH 160	1308K • 20308K • 21308K • 2208K • 22208K • C 2208K
KM 8	MB 8	HN 8		BH 160	22308K • 2308K • UK 208 • UK 308
KM 9	MB 9	HN 9		BH 160	1209K • 20209K
KM 9	MB 9	HN 9		BH 160	1309K • 20309K • 21309K • 2209K • 22209K
KM 9	MB 9	HN 9		BH 160	22309K • 2309K • UK 209 • UK 309
KM 9	MB 9	HN 9		BH 160	1209K • 20209K
KM 9	MB 9	HN 9		BH 160	1309K • 20309K • 21309K • 2209K • 22209K
KM 9	MB 9	HN 9		BH 160	22309K • 2309K • UK 209 • UK 309
KM 10	MB 10	HN 10	HMV 10E	BH 100	1210K • 20210K
KM 10	MB 10	HN 10	HMV 10E	BH 100	1310K • 20310K • 21310K • 2210K • 22210K
KM 10	MB 10	HN 10	HMV 10E	BH 100	22310K • 2310K
KM 10	MB 10	HN 10	HMV 10E	BH 100	1210K • 20210K
KM 10	MB 10	HN 10	HMV 10E	BH 100	1310K • 20310K • 21310K • 2210K • 22210K
KM 10	MB 10	HN 10	HMV 10E	BH 100	22310K • 2310K • UK 210 • UK 310
KM 10	MB 10	HN 10	HMV 10E	BH 100	1210K • 20210K
KM 10	MB 10	HN 10	HMV 10E	BH 100	1310K • 20310K • 21310K • 2210K • 22210K
KM 10	MB 10	HN 10	HMV 10E	BH 100	22310K • 2310K • UK 210 • UK 310
KM 11X1.5	MB 11	HN 11	HMV 11X1.5E	BH 100	1211K • 20211K
KM 11X1.5	MB 11	HN 11	HMV 11X1.5E	BH 100	1311K • 20311K • 21311K • 2211K • 22211K
KM 11X1.5	MB 11	HN 11	HMV 11X1.5E	BH 100	22311K • 2311K • UK 211 • UK 311
KM 11X1.5	MB 11	HN 11	HMV 11X1.5E	BH 100	1211K • 20211K
KM 11X1.5	MB 11	HN 11	HMV 11X1.5E	BH 100	1311K • 20311K • 21311K • 2211K • 22211K
KM 11X1.5	MB 11	HN 11	HMV 11X1.5E	BH 100	22311K • 2311K • UK 211 • UK 311
KM 11X1.5	MB 11	HN 11	HMV 11X1.5E	BH 100	1211K • 20211K
KM 11X1.5	MB 11	HN 11	HMV 11X1.5E	BH 100	1311K • 20311K • 21311K • 2211K • 22211K
KM 11X1.5	MB 11	HN 11	HMV 11X1.5E	BH 100	22311K • 2311K • UK 211 • UK 311
KM 12X1.5	MB 12	HN 12	HMV 12X1.5E	BH 100	1212K • 20212K
KM 12X1.5	MB 12	HN 12	HMV 12X1.5E	BH 100	1312K • 20312K • 21312K • 2212K • 22212K • C 2212K
KM 12X1.5	MB 12	HN 12	HMV 12X1.5E	BH 100	22312K • 2312K

ADAPTER SLEEVE

HE, HS, HA for shafts in inch

Code	Code (hydraulics)	d1 (pol.)	d2 (mm)	Thread* (mm)	l (mm)	Dm (mm)	Weight (Kg)
HA 212		2.3/16"	60	M 60X1,5	38	80	0.29
HA 312		2.3/16"	60	M 60X1,5	47	80	0.32
HA 2312		2.3/16"	60	M 60X1,5	62	80	0.46
HA 213		2.3/16"	65	M 65X1,5	40	85	0.46
HA 313		2.3/16"	65	M 65X1,5	50	85	0.54
HA 2313		2.3/16"	65	M 65X1,5	65	85	0.67
HE 213		2.1/4"	65	M 65X1,5	40	85	0.42
HE 313		2.1/4"	65	M 65X1,5	50	85	0.49
HE 2313		2.1/4"	65	M 65X1,5	65	85	0.61
HE 214		2.1/4"	70	M 70X2	41	92	0.61
HE 314		2.1/4"	70	M 70X2	52	92	0.73
HE 2314		2.1/4"	70	M 70X2	68	92	0.92
HS 213		2.3/8"	65	M 65X1,5	40	85	0.34
HS 313		2.3/8"	65	M 65X1,5	50	85	0.40
HS 2313		2.3/8"	65	M 65X1,5	65	85	0.48
HA 215		2.7/16"	75	M 75X2	43	98	0.71
HA 315		2.7/16"	75	M 75X2	55	98	0.86
HA 2315		2.7/16"	75	M 75X2	73	98	1.10
HE 215		2.1/2"	75	M 75X2	43	98	0.66
HE 315		2.1/2"	75	M 75X2	55	98	0.80
HE 2315		2.1/2"	75	M 75X2	73	98	1.02
HS 215		2.5/8"	75	M 75X2	43	98	0.57
HS 315		2.5/8"	75	M 75X2	55	98	0.68
HS 2315		2.5/8"	75	M 75X2	73	98	0.85
HA 216		2.11/16"	80	M 80X2	46	105	0.82
HA 316		2.11/16"	80	M 80X2	59	105	0.99
HA 2316		2.11/16"	80	M 80X2	78	105	1.23
HE 216		2.3/4"	80	M 80X2	46	105	0.78
HE 316		2.3/4"	80	M 80X2	59	105	0.92
HE 2316		2.3/4"	80	M 80X2	78	105	1.15
HS 217		2.7/8"	85	M 85X2	50	110	1.02

* Example of thread code: M 50 x 1,5 M: metric thread, 50: thread diameter, 1,5: thread pitch.



ADAPTER SLEEVE HE, HA, HS

TOOLS OF ASSEMBLY AND DISASSEMBLY

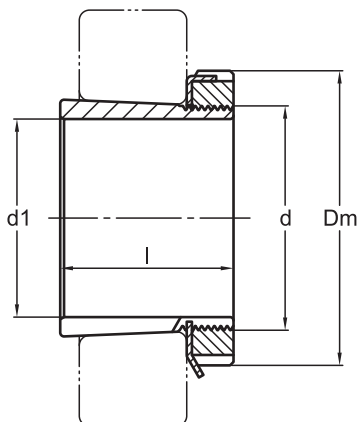
Nut for assembly	Locking device	Hook spanner	Hydraulic nut	Hydraulic pump	Bearings
KM 12X1.5	MB 12	HN 12	HMV 12X1.5E	BH 100	1212K • 20212K
KM 12X1.5	MB 12	HN 12	HMV 12X1.5E	BH 100	1312K • 20312K • 21312K • 2212K • 22212K • C 2212K
KM 12X1.5	MB 12	HN 12	HMV 12X1.5E	BH 100	22312K • 2312K
KM 13X1.5	MB 13	HN 13	HMV 13X1.5E	BH 100	1213K • 20213K
KM 13X1.5	MB 13	HN 13	HMV 13X1.5E	BH 100	1313K • 20313K • 21313K • 2213K • 22213K • C 2213K
KM 13X1.5	MB 13	HN 13	HMV 13X1.5E	BH 100	22313K • 2313K • UK 213 • UK 313
KM 13X1.5	MB 13	HN 13	HMV 13X1.5E	BH 100	1213K • 20213K
KM 13X1.5	MB 13	HN 13	HMV 13X1.5E	BH 100	1313K • 20313K • 21313K • 2213K • 22213K • C 2213K
KM 13X1.5	MB 13	HN 13	HMV 13X1.5E	BH 100	22313K • 2313K • UK 213 • UK 313
KM 14	MB 14	HN 14	HMV 14E	BH 100	1214K • 20214K
KM 14	MB 14	HN 14	HMV 14E	BH 100	1314K • 20314K • 21314K • 2214K • 22214K • C 2214K
KM 14	MB 14	HN 14	HMV 14E	BH 100	22314K • 2314K • C 2314K
KM 13X1.5	MB 13	HN 13	HMV 13X1.5E	BH 100	1213K • 20213K
KM 13X1.5	MB 13	HN 13	HMV 13X1.5E	BH 100	1313K • 20313K • 21313K • 2213K • 22213K • C 2213K
KM 13X1.5	MB 13	HN 13	HMV 13X1.5E	BH 100	22313K • 2313K • UK 213 • UK 313
KM 15	MB 15	HN 15	HMV 15E	BH 100	1215K • 20215K
KM 15	MB 15	HN 15	HMV 15E	BH 100	1315K • 20315K • 21315K • 2215K • 22215K • C 2215K
KM 15	MB 15	HN 15	HMV 15E	BH 100	22315K • 2315K • C 2315K
KM 15	MB 15	HN 15	HMV 15E	BH 100	1215K • 20215K
KM 15	MB 15	HN 15	HMV 15E	BH 100	1315K • 20315K • 21315K • 2215K • 22215K • C 2215K
KM 15	MB 15	HN 15	HMV 15E	BH 100	22315K • 2315K • C 2315K • UK 215 • UK 315
KM 15	MB 15	HN 15	HMV 15E	BH 100	1215K • 20215K
KM 15	MB 15	HN 15	HMV 15E	BH 100	1315K • 20315K • 21315K • 2215K • 22215K • C 2215K
KM 15	MB 15	HN 15	HMV 15E	BH 100	22315K • 2315K • C 2315K
KM 16	MB 16	HN 16	HMV 16E	BH 100	1216K • 20216K
KM 16	MB 16	HN 16	HMV 16E	BH 100	1316K • 20316K • 21316K • 2216K • 22216K • C 2216K
KM 16	MB 16	HN 16	HMV 16E	BH 100	22316K • 2316K • C 2316K
KM 16	MB 16	HN 16	HMV 16E	BH 100	1216K • 20216K
KM 16	MB 16	HN 16	HMV 16E	BH 100	1316K • 20316K • 21316K • 2216K • 22216K • C 2216K
KM 16	MB 16	HN 16	HMV 16E	BH 100	22316K • 2316K • C 2316K • UK 216 • UK 316
KM 17	MB 17	HN 17	HMV 17E	BH 100	1217K • 20217K

ADAPTER SLEEVE

HE, HS, HA for shafts in inch

Code	Code (hydraulics)	d1 (pol.)	d2 (mm)	Thread* (mm)	l (mm)	Dm (mm)	Weight (Kg)
HS 317		2.7/8"	85	M 85X2	63	110	1.15
HS 2317		2.7/8"	85	M 85X2	82	110	1.44
HA 217		2.15/16"	85	M 85X2	50	110	0.91
HA 317		2.15/16"	85	M 85X2	63	110	1.07
HA 2317		2.15/16"	85	M 85X2	82	110	1.32
HE 217		3"	85	M 85X2	50	110	0.85
HE 317		3"	85	M 85X2	63	110	0.98
HE 2317		3"	85	M 85X2	82	110	1.22
HS 218		3.1/8"	90	M 90X2	52	120	1.08
HS 318		3.1/8"	90	M 90X2	65	120	1.27
HS 2318		3.1/8"	90	M 90X2	86	120	1.69
HA 218		3.3/16"	90	M 90X2	52	120	1.01
HA 318		3.3/16"	90	M 90X2	65	120	1.16
HA 2318		3.3/16"	90	M 90X2	86	120	1.45
HE 218		3.1/4"	90	M 90X2	52	120	0.95
HE 318		3.1/4"	90	M 90X2	65	120	1.08
HE 2318		3.1/4"	90	M 90X2	86	120	1.33
HE 219		3.1/4"	95	M 95X2	55	125	1.31
HE 319		3.1/4"	95	M 95X2	68	125	1.52
HE 2319		3.1/4"	95	M 95X2	90	125	1.90
HA 219		3.5/16"	95	M 95X2	55	125	1.37
HA 319		3.5/16"	95	M 95X2	68	125	1.43
HA 2319		3.5/16"	95	M 95X2	90	125	1.76
HS 219		3.3/8"	95	M 95X2	55	125	1.15
HS 319		3.3/8"	95	M 95X2	68	125	1.56
HS 2319		3.3/8"	95	M 95X2	90	125	1.92
HA 220		3.7/16"	100	M 100X2	58	130	1.50
HA 320		3.7/16"	100	M 100X2	71	130	1.71
HA 3120		3.7/16"	100	M 100X2	76	130	1.80
HA 2320		3.7/16"	100	M 100X2	97	130	2.20

* Example of thread code: M 50 x 1,5 M: metric thread, 50: thread diameter, 1,5: thread pitch.



ADAPTER SLEEVE HE, HA, HS

TOOLS OF ASSEMBLY AND DISASSEMBLY

Nut for assembly	Locking device	Hook spanner	Hydraulic nut	Hydraulic pump	Bearings
KM 17	MB 17	HN 17	HMV 17E	BH 100	1317K • 20317K • 21317K • 2217K • 22217K • C 2217K
KM 17	MB 17	HN 17	HMV 17E	BH 100	22317K • 2317K • C 2317K
KM 17	MB 17	HN 17	HMV 17E	BH 100	1217K • 20217K
KM 17	MB 17	HN 17	HMV 17E	BH 100	1317K • 20317K • 21317K • 2217K • 22217K • C 2217K
KM 17	MB 17	HN 17	HMV 17E	BH 100	22317K • 2317K • C 2317K
KM 17	MB 17	HN 17	HMV 17E	BH 100	1217K • 20217K
KM 17	MB 17	HN 17	HMV 17E	BH 100	1317K • 20317K • 21317K • 2217K • 22217K • C 2217K
KM 17	MB 17	HN 17	HMV 17E	BH 100	22317K • 2317K • C 2317K • UK 217 • UK 317
KM 18	MB 18	HN 18	HMV 18E	BH 100	1218K • 20218K
KM 18	MB 18	HN 18	HMV 18E	BH 100	1318K • 20318K • 21318K • 2218K • 22218K • C 2218K
KM 18	MB 18	HN 18	HMV 18E	BH 100	22318K • 2318K • 23218K • C 2318K
KM 18	MB 18	HN 18	HMV 18E	BH 100	1218K • 20218K
KM 18	MB 18	HN 18	HMV 18E	BH 100	1318K • 20318K • 21318K • 2218K • 22218K • C 2218K
KM 18	MB 18	HN 18	HMV 18E	BH 100	22318K • 2318K • 23218K • C 2318K
KM 18	MB 18	HN 18	HMV 18E	BH 100	1218K • 20218K
KM 18	MB 18	HN 18	HMV 18E	BH 100	1318K • 20318K • 21318K • 2218K • 22218K • C 2218K
KM 18	MB 18	HN 18	HMV 18E	BH 100	22318K • 2318K • 23218K • C 2318K
KM 19	MB 19	HN 19	HMV 19E	BH 100	1219K • 20219K
KM 19	MB 19	HN 19	HMV 19E	BH 100	1319K • 20319K • 21319K • 2219K • 22219K
KM 19	MB 19	HN 19	HMV 19E	BH 100	22319K • 2319K • C 2319K • UK 219 • UK 319
KM 19	MB 19	HN 19	HMV 19E	BH 100	1219K • 20219K
KM 19	MB 19	HN 19	HMV 19E	BH 100	1319K • 20319K • 21319K • 2219K • 22219K
KM 19	MB 19	HN 19	HMV 19E	BH 100	22319K • 2319K • C 2319K
KM 19	MB 19	HN 19	HMV 19E	BH 100	1219K • 20219K
KM 19	MB 19	HN 19	HMV 19E	BH 100	1319K • 20319K • 21319K • 2219K • 22219K
KM 19	MB 19	HN 19	HMV 19E	BH 100	22319K • 2319K • C 2319K
KM 20	MB 20	HN 20	HMV 20E	BH 100	1220K • 20220K
KM 20	MB 20	HN 20	HMV 20E	BH 100	1320K • 20320K • 21320K • 2220K • 22220K
KM 20	MB 20	HN 20	HMV 20E	BH 100	23120K • C 3120K
KM 20	MB 20	HN 20	HMV 20E	BH 100	22320K • 2320K • 23220K • C 2320K

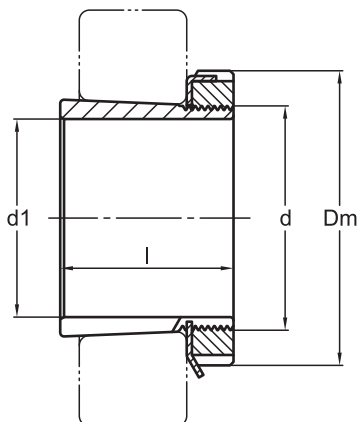
ADAPTER SLEEVE

HE, HS, HA for shafts in inch

Code	Code (hydraulics)	d1 (pol.)	d2 (mm)	Thread* (mm)	l (mm)	Dm (mm)	Weight (Kg)
HE 220		3.1/2"	100	M 100X2	58	130	1.42
HE 320		3.1/2"	100	M 100X2	71	130	1.61
HE 3120		3.1/2"	100	M 100X2	76	130	1.69
HE 2320		3.1/2"	100	M 100X2	97	130	2.06
HS 220		3.5/8"	100	M 100X2	58	130	1.49
HS 320		3.5/8"	100	M 100X2	71	130	1.69
HS 3120		3.5/8"	100	M 100X2	76	130	1.80
HS 2320		3.5/8"	100	M 100X2	97	130	2.15
HA 221		3.11/16"	105	M 105X2	60	140	1.72
HA 321		3.11/16"	105	M 105X2	74	140	1.95
HA 2321		3.11/16"	105	M 105X2	101	140	2.46
HE 221		3.3/4"	105	M 105X2	60	140	1.72
HE 321		3.3/4"	105	M 105X2	74	140	1.80
HE 2321		3.3/4"	105	M 105X2	101	140	2.46
HS 222		3.7/8"	110	M 110X2	63	145	1.83
HS 322		3.7/8"	110	M 110X2	77	145	2.09
HS 3122		3.7/8"	110	M 110X2	81	145	2.25
HS 2322		3.7/8"	110	M 110X2	105	145	2.68
HA 222		3.15/16"	110	M 110X2	63	145	1.51
HA 322		3.15/16"	110	M 110X2	77	145	1.96
HA 3122		3.15/16"	110	M 110X2	81	145	2.25
HA 2322		3.15/16"	110	M 110X2	105	145	2.40
HE 222		4"	110	M 110X2	63	145	1.63
HE 322		4"	110	M 110X2	77	145	1.82
HE 3122		4"	110	M 110X2	81	145	1.91
HE 2322		4"	110	M 110X2	105	145	2.31
HA 3024		4.3/16"	120	M 120X2	72	145	1.93
HA 3124 L		4.3/16"	120	M 120X2	88	145	2.69
HA 3124		4.3/16"	120	M 120X2	88	155	2.69
HA 2324 L		4.3/16"	120	M 120X2	112	145	3.38
HA 2324		4.3/16"	120	M 120X2	112	155	3.38

* Example of thread code: M 50 x 1,5 M: metric thread, 50: thread diameter, 1,5: thread pitch.

* Suffix L: Sleeve assembled with nut KML and lockwashers MBL.



ADAPTER SLEEVE HE, HA, HS

TOOLS OF ASSEMBLY AND DISASSEMBLY

Nut for assembly	Locking device	Hook spanner	Hydraulic nut	Hydraulic pump	Bearings
KM 20	MB 20	HN 20	HMV 20E	BH 100	1220K • 20220K
KM 20	MB 20	HN 20	HMV 20E	BH 100	1320K • 20320K • 21320K • 2220K • 22220K
KM 20	MB 20	HN 20	HMV 20E	BH 100	23120K • C 3120K
KM 20	MB 20	HN 20	HMV 20E	BH 100	22320K • 2320K • 23220K • C 2320K • UK 220 • UK 320
KM 20	MB 20	HN 20	HMV 20E	BH 100	1220K • 20220K
KM 20	MB 20	HN 20	HMV 20E	BH 100	1320K • 20320K • 21320K • 2220K • 22220K
KM 20	MB 20	HN 20	HMV 20E	BH 100	23120K • C 3120K
KM 20	MB 20	HN 20	HMV 20E	BH 100	22320K • 2320K • 23220K • C 2320K
KM 21	MB 21	HN 21	HMV 21E	BH 100	1221K • 20221K
KM 21	MB 21	HN 21	HMV 21E	BH 100	20321K • 21321K • 2221K
KM 21	MB 21	HN 21	HMV 21E	BH 100	23221K
KM 21	MB 21	HN 21	HMV 21E	BH 100	1221K • 20221K
KM 21	MB 21	HN 21	HMV 21E	BH 100	20321K • 21321K • 2221K
KM 21	MB 21	HN 21	HMV 21E	BH 100	23221K
KM 22	MB 22	HN 22	HMV 22E	BH 100	1222K • 0222K
KM 22	MB 22	HN 22	HMV 22E	BH 100	1322K • 20322K • 21322K • 22222K • 2222K • 23022K
KM 22	MB 22	HN 22	HMV 22E	BH 100	23122K
KM 22	MB 22	HN 22	HMV 22E	BH 100	22322K • 23222K • UK 222 • UK 322
KM 22	MB 22	HN 22	HMV 22E	BH 100	1222K • 20222K
KM 22	MB 22	HN 22	HMV 22E	BH 100	1322K • 20322K • 21322K • 22222K • 2222K • 23022K
KM 22	MB 22	HN 22	HMV 22E	BH 100	23122K
KM 22	MB 22	HN 22	HMV 22E	BH 100	22322K • 23222K
KM 22	MB 22	HN 22	HMV 22E	BH 100	1222K • 20222K
KM 22	MB 22	HN 22	HMV 22E	BH 100	1322K • 20322K • 21322K • 22222K • 2222K • 23022K
KM 22	MB 22	HN 22	HMV 22E	BH 100	23122K
KM 22	MB 22	HN 22	HMV 22E	BH 100	22322K • 23222K
KML 24	MBL 24	HN 22	HMV 24E	BH 100	1224K • 20224K • 23024K • C 3024K
KML 24	MBL 24	HN 22	HMV 24E	BH 100	C 2224K
KM 24	MB 24	HN 24	HMV 24E	BH 100	20324K • 22224K • 23124K
KML 24	MBL 24	HN 22	HMV 24E	BH 100	C 3224K
KM 24	MB 24	HN 24	HMV 24E	BH 100	22324K • 23224K

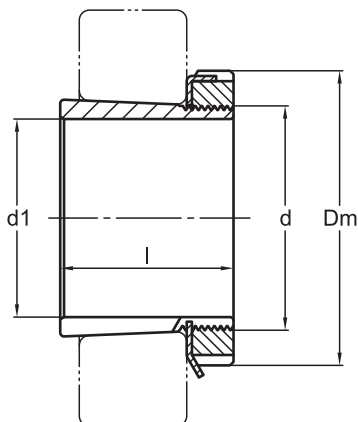
ADAPTER SLEEVE

HE, HS, HA for shafts in inch

Code	Code (hydraulics)	d1 (pol.)	d2 (mm)	Thread* (mm)	l (mm)	Dm (mm)	Weight (Kg)
HE 3024		4.1/4"	120	M 120X2	72	145	2.00
HE 3124		4.1/4"	120	M 120X2	88	155	2.57
HE 3124 L		4.1/4"	120	M 120X2	88	145	2.57
HE 2324		4.1/4"	120	M 120X2	112	155	3.14
HE 2324 L		4.1/4"	120	M 120X2	112	145	3.14
HS 3024		4.3/8"	120	M 120X2	72	145	1.93
HS 3124		4.3/8"	120	M 120X2	88	155	2.40
HS 2324		4.3/8"	120	M 120X2	112	155	3.19
HA 3026		4.7/16"	130	M 130X2	80	155	2.78
HA 3126		4.7/16"	130	M 130X2	92	165	3.50
HA 3126 L		4.7/16"	130	M 130X2	92	155	3.50
HA 2326		4.7/16"	130	M 130X2	121	165	4.40
HE 3026		4.1/2"	130	M 130X2	80	155	2.60
HE 3126		4.1/2"	130	M 130X2	92	165	3.55
HE 3126 L		4.1/2"	130	M 130X2	92	155	3.55
HE 2326		4.1/2"	130	M 130X2	121	165	4.27
HS 3028		4.7/8"	140	M 140X2	82	165	3.16
HS 3128		4.7/8"	140	M 140X2	97	180	4.00
HS 2328		4.7/8"	140	M 140X2	131	180	5.20
HA 3028		4.15/16"	140	M 140X2	82	165	2.81
HA 3128		4.15/16"	140	M 140X2	97	180	3.87
HA 3128 L		4.15/16"	140	M 140X2	97	165	3.87
HA 2328		4.15/16"	140	M 140X2	131	180	4.99
HE 3028		5"	140	M 140X2	82	165	2.60
HE 3128		5"	140	M 140X2	97	180	3.65
HE 3128 L		5"	140	M 140X2	97	165	3.65
HE 2328		5"	140	M 140X2	131	180	4.68
HA 3030		5.3/16"	150	M 150X2	87	180	3.94
HA 3130		5.3/16"	150	M 150X2	111	195	5.42
HA 3130 L		5.3/16"	150	M 150X2	111	180	5.42
HA 2330		5.3/16"	150	M 150X2	139	195	6.72

* Example of thread code: M 50 x 1,5 M: metric thread, 50: thread diameter, 1,5: thread pitch.

* Suffix L: Sleeve assembled with nut KML and lockwashers MBL.



ADAPTER SLEEVE HE, HA, HS

TOOLS OF ASSEMBLY AND DISASSEMBLY

Nut for assembly	Locking device	Hook spanner	Hydraulic nut	Hydraulic pump	Bearings
KML 24	MBL 24	HN 22	HMV 24E	BH 100	1224K • 20224K • 23024K • C3024K
KM 24	MB 24	HN 24	HMV 24E	BH 100	20324K • 22224K • 23124K
KML 24	MBL 24	HN 22	HMV 24E	BH 100	C 2224K
KM 24	MB 24	HN 24	HMV 24E	BH 100	22324K • 23224K
KML 24	MBL 24	HN 22	HMV 24E	BH 100	C 3224K
KML 24	MBL 24	HN 22	HMV 24E	BH 100	1224K • 20224K • 23024K • C 3024K
KM 24	MB 24	HN 24	HMV 24E	BH 100	20324K • 22224K • 23124K
KM 24	MB 24	HN 24	HMV 24E	BH 100	22324K • 23224K
KML 26	MBL 26	HN 24	HMV 26E	BH 100	20226K • 23026K • C 3026K
KM 26	MB 26	HN 26	HMV 26E	BH 100	20326K • 22226K • 23126K
KML 26	MBL 26	HN 24	HMV 26E	BH 100	C 2226K
KM 26	MB 26	HN 26	HMV 26E	BH 100	22326K • 23226K
KML 26	MBL 26	HN 24	HMV 26E	BH 100	20226K • 23026K • C 3026K
KM 26	MB 26	HN 26	HMV 26E	BH 100	20326K • 22226K • 23126K
KML 26	MBL 26	HN 24	HMV 26E	BH 100	C 2226K
KM 26	MB 26	HN 26	HMV 26E	BH 100	22326K • 23226K
KML 28	MBL 28	HN 26	HMV 28E	BH 100	20228K • 23028K • C 3028K
KM 28	MB 28	HN 28	HMV 28E	BH 100	20328K • 22228K • 23128K
KM 28	MB 28	HN 28	HMV 28E	BH 100	22328K • 23228K
KML 28	MBL 28	HN 26	HMV 28E	BH 100	20228K • 23028K • C 3028K
KM 28	MB 28	HN 28	HMV 28E	BH 100	20328K • 22228K • 23128K
KML 28	MBL 28	HN 26	HMV 28E	BH 100	C 2228K
KM 28	MB 28	HN 28	HMV 28E	BH 100	22328K • 23228K
KML 28	MBL 28	HN 26	HMV 28E	BH 100	20228K • 23028K • C 3028K
KM 28	MB 28	HN 28	HMV 28E	BH 100	20328K • 22228K • 23128K
KML 28	MBL 28	HN 26	HMV 28E	BH 100	C 2228K
KM 28	MB 28	HN 28	HMV 28E	BH 100	22328K • 23228K
KML 30	MBL 30	HN 28	HMV 30E	BH 100	20230K • 23030K
KM 30	MB 30	HN 30	HMV 30E	BH 100	20330K • 22230K • 23130K
KML 30	MBL 30	HN 28	HMV 30E	BH 100	C 2230K • C 3130K
KM 30	MB 30	HN 30	HMV 30E	BH 100	22330K • 23230K

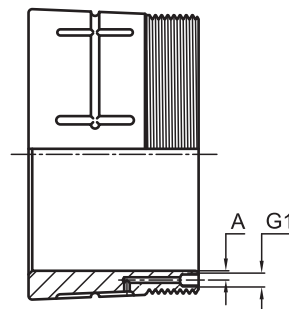
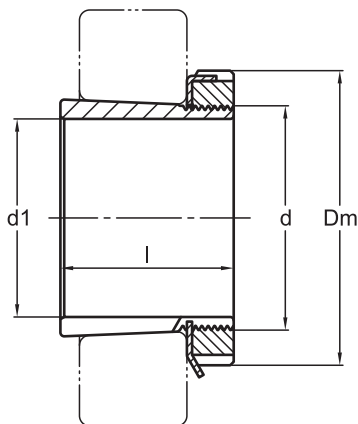
ADAPTER SLEEVE

HE, HA, HS, OHE...H, OHA...H, OHS...H for shafts in inch

Code	Code (hydraulics)	d1 (pol.)	d2 (mm)	Thread* (mm)	l (mm)	Dm (mm)	Weight (Kg)	HIDRAULIC (A	G1)	Extension tube
HE 3030		5.1/4"	150	M 150X2	87	180	3.89			
HE 3130 L		5.1/4"	150	M 150X2	111	180	5.29			
HE 3130		5.1/4"	150	M 150X2	111	195	5.29			
HE 2330		5.1/4"	150	M 150X2	139	195	6.40			
HS 3030		5.3/8"	150	M 150X2	87	180	3.89			
HS 3130		5.3/8"	150	M 150X2	111	195	5.52			
HS 2330		5.3/8"	150	M 150X2	139	195	6.63			
HA 3032	OHA 3032H	5.7/16"	160	M 160X3	93	190	5.20	4.5	M6	TE M6 01 ou 02
HA 3132	OHA 3132H	5.7/16"	160	M 160X3	119	210	7.13	4.5	M6	TE M6 01 ou 02
HA 3132 L	OHA 3132HL	5.7/16"	160	M 160X3	119	190	7.13	4.5	M6	TE M6 01 ou 02
HA 2332	OHA 2332H	5.7/16"	160	M 160X3	147	210	8.57	4.5	M6	TE M6 01 ou 02
HA 2332 L	OHA 2332HL	5.7/16"	160	M 160X3	147	190	8.57	4.5	M6	TE M6 01 ou 02
HE 3032	OHE 3032H	5.1/2"	160	M 160X3	93	190	5.21	4.1	M6	TE M6 01 ou 02
HE 3132 L	OHE 3132HL	5.1/2"	160	M 160X3	119	190	7.00	4.1	M6	TE M6 01 ou 02
HE 3132	OHE 3132H	5.1/2"	160	M 160X3	119	210	7.00	4.1	M6	TE M6 01 ou 02
HE 2332 L	OHE 2332HL	5.1/2"	160	M 160X3	147	190	8.60	4.1	M6	TE M6 01 ou 02
HE 2332	OHE 2332H	5.1/2"	160	M 160X3	147	210	8.60	4.1	M6	TE M6 01 ou 02
HS 3034	OHS 3034H	5.7/8"	170	M 170X3	101	200	5.99	4.2	M6	TE M6 01 ou 02
HS 3134	OHS 3134H	5.7/8"	170	M 170X3	122	220	8.38	4.2	M6	TE M6 01 ou 02
HS 2334	OHS 2334H	5.7/8"	170	M 170X3	154	220	10.20	4.2	M6	TE M6 01 ou 02
HA 3034	OHA 3034H	5.15/16"	170	M 170X3	101	200	5.29	3.8	M6	TE M6 01 ou 02
HA 3134	OHA 3134H	5.15/16"	170	M 170X3	122	220	7.50	3.8	M6	TE M6 01 ou 02
HA 3134 L	OHA 3134HL	5.15/16"	170	M 170X3	122	200	7.50	3.8	M6	TE M6 01 ou 02
HA 2334	OHA 2334H	5.15/16"	170	M 170X3	154	220	9.03	3.8	M6	TE M6 01 ou 02
HE 3034	OHE 3034H	6"	170	M 170X3	101	200	5.20	3.4	M4	TE M4 01
HE 3134	OHE 3134H	6"	170	M 170X3	122	220	7.50	3.4	M4	TE M4 01
HE 3134 L	OHE 3134HL	6"	170	M 170X3	122	200	7.50	3.4	M4	TE M4 01
HE 2334	OHE 2334H	6"	170	M 170X3	154	220	8.60	3.4	M4	TE M4 01
HS 3036	OHS 3036H	6.3/8"	180	M 180X3	109	210	6.83	3.5	M6	TE M6 01 ou 02
HS 3136	OHS 3136H	6.3/8"	180	M 180X3	131	230	9.50	3.5	M6	TE M6 01 ou 02
HS 2336	OHS 2336H	6.3/8"	180	M 180X3	161	230	11.30	3.5	M6	TE M6 01 ou 02

* Example of thread code: M 50 x 1,5 M: metric thread, 50: thread diameter, 1,5: thread pitch.

* Suffix L: Sleeve assembled with nut KML and lockwashers MBL.



ADAPTER SLEEVE HE, HA, HS

REPRESENTATION OF OIL GROOVE FOR HYDRAULIC SLEEVES OHE...H, OHA...H, OHS...H

TOOLS OF ASSEMBLY AND DISASSEMBLY

Nut for assembly	Locking device	Hook spanner	Hydraulic nut	Hydraulic pump	Bearings
KML 30	MBL 30	HN 28	HMV 30E	BH 100	20230K • 23030K
KML 30	MBL 30	HN 28	HMV 30E	BH 100	C 2230K • C 3130K
KM 30	MB 30	HN 30	HMV 30E	BH 100	20330K • 22230K • 23130K
KM 30	MB 30	HN 30	HMV 30E	BH 100	22330K • 23230K
KML 30	MBL 30	HN 28	HMV 30E	BH 100	20230K • 23030K
KM 30	MB 30	HN 30	HMV 30E	BH 100	20330K • 22230K • 23130K
KM 30	MB 30	HN 30	HMV 30E	BH 100	22330K • 23230K
KML 32	MBL 32	HN 29	HMV 32E	BH 100	20232K • 23032K • C 3032K
KM 32	MB 32	HN 32	HMV 32E	BH 100	20332K • 22232K • 23132K
KML 32	MBL 32	HN 29	HMV 32E	BH 100	C 3132K
KM 32	MB 32	HN 32	HMV 32E	BH 100	22332K • 23232K
KML 32	MBL 32	HN 29	HMV 32E	BH 100	C 3232K
KML 32	MBL 32	HN 29	HMV 32E	BH 100	20232K • 23032K • C 3032K
KML 32	MBL 32	HN 29	HMV 32E	BH 100	C 3132K
KM 32	MB 32	HN 32	HMV 32E	BH 100	20332K • 22232K • 23132K
KML 32	MBL 32	HN 29	HMV 32E	BH 100	C 3232K
KM 32	MB 32	HN 32	HMV 32E	BH 100	22332K • 23232K
KML 34	MBL 34	HN 31	HMV 34E	BH 100	20234K • 23034K • C 3034K
KM 34	MB 34	HN 34	HMV 34E	BH 100	20334K • 22234K • 23134K
KM 34	MB 34	HN 34	HMV 34E	BH 100	22334K • 23234K
KML 34	MBL 34	HN 31	HMV 34E	BH 100	20234K • 23034K • C 3034K
KM 34	MB 34	HN 34	HMV 34E	BH 100	20334K • 22234K • 23134K
KML 34	MBL 34	HN 31	HMV 34E	BH 100	C 2234K • C 3134K
KM 34	MB 34	HN 34	HMV 34E	BH 100	22334K • 23234K
KML 34	MBL 34	HN 31	HMV 34E	BH 100	20234K • 23034K • C 3034K
KM 34	MB 34	HN 34	HMV 34E	BH 100	20334K • 22234K • 23134K
KML 34	MBL 34	HN 31	HMV 34E	BH 100	C 2234 • C 3134
KM 34	MB 34	HN 34	HMV 34E	BH 100	22334K • 23234K
KML 36	MBL 36	HN 32	HMV 36E	BH 100	20236K • 20336K • 23036K • C 3036K
KM 36	MB 36	HN 36	HMV 36E	BH 100	22236K • 23136K
KM 36	MB 36	HN 36	HMV 36E	BH 100	22336K • 23236K • C 3236K


BERTOLOTO & GROTTA

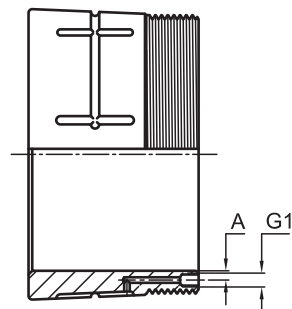
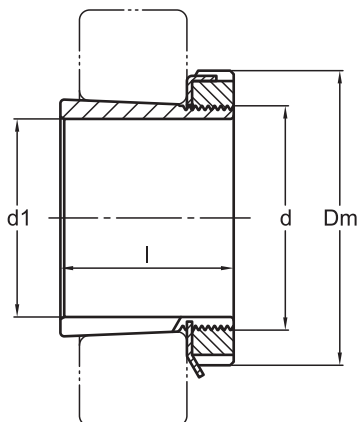
ADAPTER SLEEVE

HE, HA, HS, OHE...H, OHA...H, OHS...H for shafts in inch

Code	Code (hydraulics)	d1 (pol.)	d2 (mm)	Thread* (mm)	l (mm)	Dm (mm)	Weight (Kg)	HIDRAULIC (A)	G1	Extension tube
HA 3036	OHA 3036H	6.7/16"	180	M 180X3	109	210	5.56	3.1	M4	TE M4 01
HA 3136	OHA 3136H	6.7/16"	180	M 180X3	131	230	7.80	3.1	M4	TE M4 01
HA 3136 L	OHA 3136HL	6.7/16"	180	M 180X3	131	210	9.50	3.1	M4	TE M4 01
HA 2336	OHA 2336H	6.7/16"	180	M 180X3	161	230	9.60	3.1	M4	TE M4 01
HE 3036	OHE 3036H	6.1/2"	180	M 180X3	109	210	5.40	2.7	M4	TE M4 01
HE 3136 L	OHE 3136HL	6.1/2"	180	M 180X3	131	210	7.40	2.7	M4	TE M4 01
HE 3136	OHE 3136H	6.1/2"	180	M 180X3	131	230	7.40	2.7	M4	TE M4 01
HE 2336	OHE 2336H	6.1/2"	180	M 180X3	161	230	9.00	2.7	M4	TE M4 01
HS 3038	OHS 3038H	6.5/8"	190	M 190X3	112	220	7.45	4.4	M6	TE M6 01 ou 02
HS 3138	OHS 3138H	6.5/8"	190	M 190X3	141	240	10.20	4.4	M6	TE M6 01 ou 02
HS 2338	OHS 2338H	6.5/8"	190	M 190X3	169	240	12.60	4.4	M6	TE M6 01 ou 02
HE 3038	OHE 3038H	6.3/4"	190	M 190X3	112	220	6.60	3.6	M6	TE M6 01 ou 02
HE 3138	OHE 3138H	6.3/4"	190	M 190X3	141	240	9.40	3.6	M6	TE M6 01 ou 02
HE 2338	OHE 2338H	6.3/4"	190	M 190X3	169	240	11.00	3.6	M6	TE M6 01 ou 02
HA 3038	OHA 3038H	6.15/16"	190	M 190X3	112	220	7.45	2.4	M4	TE M4 01
HA 3138	OHA 3138H	6.15/16"	190	M 190X3	141	240	8.20	2.4	M4	TE M4 01
HA 2338	OHA 2338H	6.15/16"	190	M 190X3	169	240	12.60	2.4	M4	TE M4 01
HE 3040	OHE 3040H	7"	200	M 200X3	120	240	8.80	4.6	M6	TE M6 01 ou 02
HE 3140	OHE 3140H	7"	200	M 200X3	150	250	11.60	4.6	M6	TE M6 01 ou 02
HE 3140 L	OHE 3140HL	7"	200	M 200X3	150	240	11.30	4.0	M6	TE M6 01 ou 02
HE 2340	OHE 2340H	7"	200	M 200X3	176	250	13.60	4.6	M6	TE M6 01 ou 02
HS 3040	OHS 3040H	7.1/8"	200	M 200X3	120	240	9.19	3.6	M6	TE M6 01 ou 02
HS 3140	OHS 3140H	7.1/8"	200	M 200X3	150	250	12.10	3.8	M6	TE M6 01 ou 02
HS 3140 L	OHS 3140HL	7.1/8"	200	M 200X3	150	240	11.30	4.0	M6	TE M6 01 ou 02
HS 2340	OHS 2340H	7.1/8"	200	M 200X3	176	250	13.90	3.8	M6	TE M6 01 ou 02
HA 3040	OHA 3040H	7.3/16"	200	M 200X3	120	240	9.19	3.4	M4	TE M4 01
HA 3140	OHA 3140H	7.3/16"	200	M 200X3	150	250	10.25	3.4	M4	TE M4 01
HA 3140 L	OHA 3140HL	7.3/16"	200	M 200X3	150	240	9.55	4.0	M4	TE M4 01
HA 2340	OHA 2340H	7.3/16"	200	M 200X3	176	250	11.70	3.4	M4	TE M4 01
HA 3044	OHA 3044H	7.15/16"	220	TR 220X4	126	260	10.30	3.4	M4	TE M4 01
HA 3144	OHA 3144H	7.15/16"	220	TR 220X4	161	280	12.80	3.4	M4	TE M4 01

* Example of thread code: M 50 x 1,5 M: metric thread, 50: thread diameter, 1,5: thread pitch.

* Suffix L: Sleeve assembled with nut KML and lockwashers MBL.



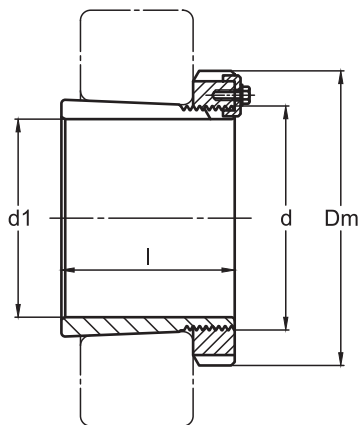
**REPRESENTATION OF
OIL GROOVE FOR HYDRAULIC SLEEVES OHE...H,
OHA...H, OHS...H**

ADAPTER SLEEVE HE, HA, HS

TOOLS OF ASSEMBLY AND DISASSEMBLY

Nut for assembly	Locking device	Hook spanner	Hydraulic nut	Hydraulic pump	Bearings
KML 36	MBL 36	HN 32	HMV 36E	BH 100	20236K • 20336K • 23036K • C 3036K
KM 36	MB 36	HN 36	HMV 36E	BH 100	22236K • 23136K
KML 36	MBL 36	HN 32	HMV 36E	BH 100	C 3136K
KM 36	MB 36	HN 36	HMV 36E	BH 100	22336K • 23236K • C 3236K
KML 36	MBL 36	HN 32	HMV 36E	BH 100	20236K • 20336K • 23036K • C 3036K
KML 36	MBL 36	HN 32	HMV 36E	BH 100	C 3136K
KM 36	MB 36	HN 36	HMV 36E	BH 100	22236K • 23136K
KM 36	MB 36	HN 36	HMV 36E	BH 100	22336K • 23236K • C 3236K
KML 38	MBL 38	HN 34	HMV 38E	BH 100	20238K • 20338K • 23038K • C 3038K
KM 38	MB 38	HN 38	HMV 38E	BH 100	22238K • 23138K • C 2238K
KM 38	MB 38	HN 38	HMV 38E	BH 100	22338K • 23238K
KML 38	MBL 38	HN 34	HMV 38E	BH 100	20238K • 20338K • 23038K • C 3038K
KM 38	MB 38	HN 38	HMV 38E	BH 100	22238K • 23138K • C 2238K
KM 38	MB 38	HN 38	HMV 38E	BH 100	22338K • 23238K
KML 38	MBL 38	HN 34	HMV 38E	BH 100	20238K • 20338K • 23038K • C 3038K
KM 38	MB 38	HN 38	HMV 38E	BH 100	22238K • 23138K • C 2238K
KM 38	MB 38	HN 38	HMV 38E	BH 100	22338K • 23238K
KML 40	MBL 40	HN 38	HMV 40E	BH 100	20240K • 20340K • 23040K • C 3040K
KM 40	MB 40	HN 40	HMV 40E	BH 100	22240K • 23140K • C 3140K
KML 40	MBL 40	HN 40	HMV 40E	BH 100	C 3140K
KM 40	MB 40	HN 40	HMV 40E	BH 100	22340K • 23240K
KML 40	MBL 40	HN 38	HMV 40E	BH 100	20240K • 20340K • 23040K • C 3040K
KM 40	MB 40	HN 40	HMV 40E	BH 100	22240K • 23140K • C 3140K
KML 40	MBL 40	HN 40	HMV 40E	BH 100	C 3140K
KM 40	MB 40	HN 40	HMV 40E	BH 100	22340K • 23240K
KML 40	MBL 40	HN 38	HMV 40E	BH 100	20240K • 20340K • 23040K • C 3040K
KM 40	MB 40	HN 40	HMV 40E	BH 100	22240K • 23140K • C 3140K
KML 40	MBL 40	HN 40	HMV 40E	BH 100	C 3140K
KM 40	MB 40	HN 40	HMV 40E	BH 100	22340K • 23240K
HM 3044	MS 3044	HN 44	HMV 44E	BH 100	20244K • 20344K • 23044K • C 3044K
HM 3144	MS 3144-MS 3148	HN 44	HMV 44E	BH 100	22244K • 23144K • C 2244K

ADAPTER SLEEVE HE, HA, HS, OHE...H, OHA...H, OHS...H for shafts in inch



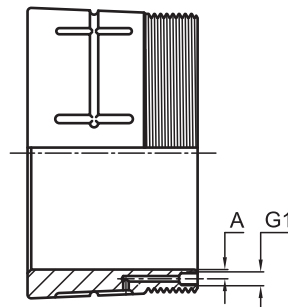
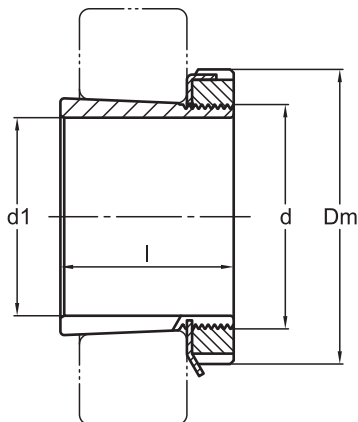
ADAPTER SLEEVE HE, HA, HS WITH MS

Code	Code (hydraulics)	d1 (pol.)	d2 (mm)	Thread* (mm)	l (mm)	Dm (mm)	Weight (Kg)	HIDRAULIC (A)	G1	Extension tube
HA 3144 TL	OHA 3144HTL	7.15/16"	220	TR 220X4	161	280	11.02	3.4	M4	TE M4 01
HA 3144 X	OHA 3144XH	7.15/16"	220	TR 220X4	161	280	14.70	3.4	M4	TE M4 01
HA 2344	OHA 2344H	7.15/16"	220	TR 220X4	186	280	16.70	3.4	M4	TE M4 01
HA 2344 X	OHA 2344XH	7.15/16"	220	TR 220X4	186	280	16.70	3.4	M4	TE M4 01
HE 3044	OHE 3044H	8"	220	TR 220X4	126	260	10.30	3.0	M4	TE M4 01
HE 3144	OHE 3144H	8"	220	TR 220X4	161	280	12.20	3.0	M4	TE M4 01
HE 3144 TL	OHE 3144HTL	8"	220	TR 220X4	161	280	11.00	3.0	M4	TE M4 01
HE 3144 X	OHE 3144XH	8"	220	TR 220X4	161	280	13.00	3.0	M4	TE M4 01
HE 2344	OHE 2344H	8"	220	TR 220X4	186	280	14.00	3.0	M4	TE M4 01
HE 2344 X	OHE 2344XH	8"	220	TR 220X4	186	280	16.70	3.0	M4	TE M4 01
HA 2348	OHA 2348H	8.7/16"	240	TR 240X4	199	300	19.70	5.2	M6	TE M6 01 ou 02
HA 3048	OHA 3048H	8.7/16"	240	TR 240X4	133	290	13.70	5.2	M6	TE M6 01 ou 02
HA 3148	OHA 3148H	8.7/16"	240	TR 240X4	172	300	17.30	5.2	M6	TE M6 01 ou 02
HA 3148 TL	OHA 3148HTL	8.7/16"	240	TR 240X4	172	300	15.80	5.2	M6	TE M6 01 ou 02
HE 3048	OHE 3048H	8.1/2"	240	TR 240X4	133	290	13.20	4.8	M6	TE M6 01 ou 02
HE 3148	OHE 3148H	8.1/2"	240	TR 240X4	172	300	17.60	4.8	M6	TE M6 01 ou 02
HE 3148 TL	OHE 3148HTL	8.1/2"	240	TR 240X4	172	300	15.80	4.8	M6	TE M6 01 ou 02
HE 3148 X	OHE 3148XH	8.1/2"	240	TR 240X4	172	300	17.30	4.8	M6	TE M6 01 ou 02
HE 2348	OHE 2348H	8.1/2"	240	TR 240X4	199	300	19.70	4.8	M6	TE M6 01 ou 02
HE 2348 X	OHE 2348XH	8.1/2"	240	TR 240X4	199	300	19.70	4.8	M6	TE M6 01 ou 02
HA 3052	OHA 3052H	9.7/16"	260	TR 260X4	145	310	15.30	6.3	M6	TE M6 01 ou 02
HA 3152	OHA 3152H	9.7/16"	260	TR 260X4	190	330	20.20	3.9	M6	TE M6 01 ou 02
HA 3152 TL	OHA 3152HTL	9.7/16"	260	TR 260X4	190	330	17.73	3.9	M6	TE M6 01 ou 02
HA 2352	OHA 2352H	9.7/16"	260	TR 260X4	211	330	24.20	3.9	M6	TE M6 01 ou 02
HE 3052	OHE 3052H	9.1/2"	260	TR 260X4	145	310	13.40	3.5	M6	TE M6 01 ou 02
HE 3152	OHE 3152H	9.1/2"	260	TR 260X4	190	330	22.00	3.5	M6	TE M6 01 ou 02
HE 3152 TL	OHE 3152HTL	9.1/2"	260	TR 260X4	190	330	20.00	3.5	M6	TE M6 01 ou 02
HE 3152 X	OHE 3152XH	9.1/2"	260	TR 260X4	190	330	22.00	6.7	M6	TE M6 01 ou 02
HE 2352	OHE 2352H	9.1/2"	260	TR 260X4	211	330	24.20	3.5	M6	TE M6 01 ou 02
HE 2352 X	OHE 2352XH	9.1/2"	260	TR 260X4	211	330	24.20	3.5	M6	TE M6 01 ou 02
HE 3056	OHE 3056H	10"	280	TR 280X4	152	330	16.60	5.3	M6	TE M6 01 ou 02
HE 3156	OHE 3156H	10"	280	TR 280X4	195	350	24.50	5.3	M6	TE M6 01 ou 02
HE 3156 TL	OHE 3156HTL	10"	280	TR 280X4	195	350	22.60	5.3	M6	TE M6 01 ou 02

* Example of thread code: TR 300X4: trapezoidal metric thread, 300: thread diameter, 4: thread pitch.

* Suffix L: Sleeve assembled with nut KLM and lockwashers MBL.

* Suffix TL: Sleeve of the series 3100 assembled with nut HM 3000 and locking device MS 3000.



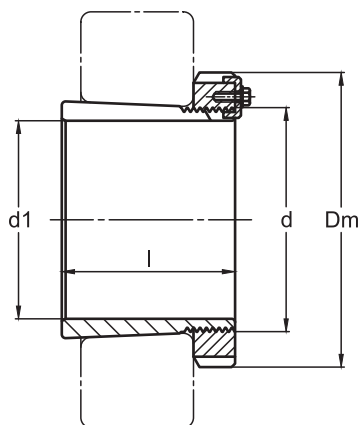
ADAPTER SLEEVE HE, HA, HS

REPRESENTATION OF OIL GROOVE FOR HYDRAULIC SLEEVES OHE...H, OHA...H, OHS...H

TOOLS OF ASSEMBLY AND DISASSEMBLY

Locking device			Hydraulic nut		Bearings	
HM 3044	MS 3044		HMV 44E	BH 100	22244K • 23144K • C 2244K • C 3144K	
HM 44T	MB 44	HN 44	HMV 44E	BH 100	22244K • 23144K	
HM 3144	MS 3144-MS 3148	HN 44	HMV 44E	BH 100	22344K • 23244K	
HM 44T	MB 44	HN 44	HMV 44E	BH 100	22344K • 23244K	
HM 3044	MS 3044	HN 44	HMV 44E	BH 100	20244K • 20344K • 23044K • C 3044K	
HM 3144	MS 3144-MS 3148	HN 44	HMV 44E	BH 100	22244K • 23144K • C 2244K	
HM 3044	MS 3044		HMV 44E	BH 100	22244K • 23144K • C 2244K	
HM 44T	MB 44	HN 44	HMV 44E	BH 100	22244K • 23144K	
HM 3144	MS 3144-MS 3148	HN 44	HMV 44E	BH 100	22344K • 23244K	
HM 44T	MB 44	HN 44	HMV 44E	BH 100	22344K • 23244K	
HM 3148	MS 3144-MS 3148		HMV 48E	BH 100	22348K • 23248K	
HM 3048	MS 3048-MS 3052		HMV 48E	BH 100	20248K • 20348K • 23048K • C 3048K	
HM 3148	MS 3144-MS 3148		HMV 48E	BH 100	22248K • 23148K	
HM 3048	MS 3048-MS 3052		HMV 48E	BH 100	22248K • 23148K • C 3148K	
HM 3048	MS 3048-MS 3052		HMV 48E	BH 100	20248K • 20348K • 23048K • C 3048K	
HM 3148	MS 3144-MS 3148		HMV 48E	BH 100	22248K • 23148K	
HM 48T	MB 48		HMV 48E	BH 100	22248K • 23148K • C 3148K	
HM 3148	MS 3144-MS 3148		HMV 48E	BH 100	22248K • 23148K	
HM 48T	MB 48		HMV 48E	BH 100	22348K • 23248K	
HM 3052	MS 3048-MS 3052		HMV 52E	BH 100	20252K • 23052K • C 3052K	
HM 3152	MS 3152-MS 3156		HMV 52E	BH 100	22352K • 23152K	
HM 3052	MS 3048-MS 3052		HMV 52E	BH 100	22352K • 23152K • C 3152K	
HM 3152	MS 3152-MS 3156		HMV 52E	BH 100	22252K • 23252K	
HM 3052	MS 3048-MS 3052		HMV 52E	BH 100	20252K • 23052K • C 3052K	
HM 3152	MS 3152-MS 3156		HMV 52E	BH 100	22252K • 23152K	
HM 3052	MS 3048-MS 3052		HMV 52E	BH 100	22252K • 23152K • C 3152K	
HM 52T	MB 52		HMV 52E	BH 100	22252K • 23152K	
HM 3152	MS 3152-MS 3156		HMV 52E	BH 100	22352K • 23252K	
HM 52T	MB 52		HMV 52E	BH 100	22352K • 23252K	
HM 3056	MS 3056		HMV 56E	BH 100	20256K • 23056K • C 3056K	
HM 3156	MS 3152-MS 3156		HMV 56E	BH 100	22256K • 23156K	
HM 3056	MS 3056		HMV 56E	BH 100	22256K • 23156K • C 3156K	

ADAPTER SLEEVE HE, HA, HS, OHE...H, OHA...H, OHS...H for shafts in inch

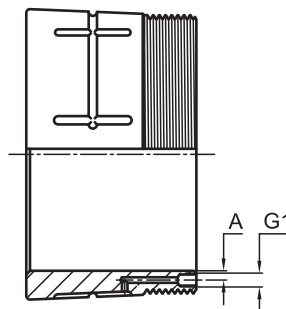
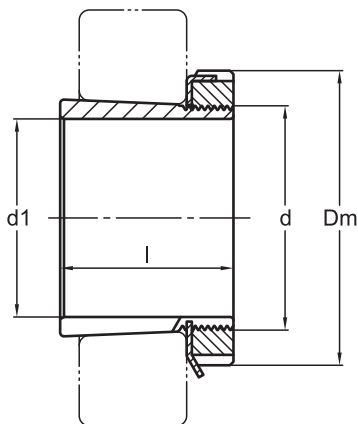


ADAPTER SLEEVE HE, HA, HS WITH MS

Code	Code (hydraulics)	d1 (pol.)	d2 (mm)	Thread* (mm)	l (mm)	Dm (mm)	Weight (Kg)	HIDRAULIC (A)	Extension tube
HE 3156 X	OHE 3156XH	10"	280	TR 280X4	195	350	24.50	5.3	M6 TE M6 01 ou 02
HE 2356	OHE 2356H	10"	280	TR 280X4	224	350	27.80	5.3	M6 TE M6 01 ou 02
HE 2356 X	OHE 2356XH	10"	280	TR 280X4	224	350	27.80	5.3	M6 TE M6 01 ou 02
HA 3056	OHA 3056H	10.7/16"	280	TR 280X4	152	330	17.70	2.5	M4 TE M4 01
HA 3156	OHA 3156H	10.7/16"	280	TR 280X4	195	350	24.00	2.5	M4 TE M4 01
HA 3156 X	OHA 3156XH	10.7/16"	280	TR 280X4	195	350	24.50	2.5	M4 TE M4 01
HA 2356	OHA 2356H	10.7/16"	280	TR 280X4	224	350	27.80	2.5	M4 TE M4 01
HA 2356 X	OHA 2356XH	10.7/16"	280	TR 280X4	224	350	26.00	2.5	M4 TE M4 01
HA 3060	OHA 3060H	10.15/16"	300	TR 300X4	168	360	22.80	4.4	M6 TE M6 01 ou 02
HA 3160	OHA 3160H	10.15/16"	300	TR 300X4	208	380	28.80	4.4	M6 TE M6 01 ou 02
HA 3160 TL	OHA 3160HTL	10.15/16"	300	TR 300X4	208	380	25.20	4.4	M6 TE M6 01 ou 02
HA 3260	OHA 3260H	10.15/16"	300	TR 300X4	240	380	36.00	4.4	M6 TE M6 01 ou 02
HE 3060	OHE 3060H	11"	300	TR 300X4	168	360	21.00	4.0	M6 TE M6 01 ou 02
HE 3160	OHE 3160H	11"	300	TR 300X4	208	380	27.60	4.0	M6 TE M6 01 ou 02
HE 3160 TL	OHE 3160HTL	11"	300	TR 300X4	208	380	25.20	4.0	M6 TE M6 01 ou 02
HE 3260	OHE 3260H	11"	300	TR 300X4	240	380	36.00	4.0	M6 TE M6 01 ou 02
HE 3064	OHE 3064H	11.1/2"	320	TR 320X5	171	380	24.60	5.5	M6 TE M6 01 ou 02
HE 3164	OHE 3164H	11.1/2"	320	TR 320X5	226	400	34.90	5.5	M6 TE M6 01 ou 02
HE 3164 TL	OHE 3164HTL	11.1/2"	320	TR 320X5	226	400	28.82	5.5	M6 TE M6 01 ou 02
HE 3264	OHE 3264H	11.1/2"	320	TR 320X5	258	400	35.00	5.5	M6 TE M6 01 ou 02
HE 3068	OHE 3068H	12"	340	TR 340X5	187	400	35.80	7.3	M6 TE M6 01 ou 02
HE 3168	OHE 3168H	12"	340	TR 340X5	254	440	58.60	7.3	M6 TE M6 01 ou 02
HE 3168 TL	OHE 3168HTL	12"	340	TR 340X5	254	440	38.04	7.3	M6 TE M6 01 ou 02
HE 3268	OHE 3268H	12"	340	TR 340X5	288	440	51.50	7.3	M6 TE M6 01 ou 02
HA 3068	OHA 3068H	12.7/16"	340	TR 340X5	187	400	28.70	4.6	M6 TE M6 01 ou 02
HA 3168	OHA 3168H	12.7/16"	340	TR 340X5	254	440	49.50	4.6	M6 TE M6 01 ou 02
HA 3168 TL	OHA 3168HTL	12.7/16"	340	TR 340X5	254	440	34.04	4.6	M6 TE M6 01 ou 02
HA 3268	OHA 3268H	12.7/16"	340	TR 340X5	288	440	51.50	4.6	M6 TE M6 01 ou 02
HE 3072	OHE 3072H	13"	360	TR 360X5	188	420	30.50	6.0	M6 TE M6 01 ou 02

* Example of thread code: TR 300X4: trapezoidal metric thread, 300: thread diameter, 4: thread pitch.

* Suffix TL: Sleeve of the serie 3100 assembled with nut HM 3000 and locking device MS 3000.



**REPRESENTATION OF
OIL GROOVE FOR HYDRAULIC SLEEVES OHE...H,
OHA...H, OHS...H**

ADAPTER SLEEVE HE, HA, HS

TOOLS OF ASSEMBLY AND DISASSEMBLY

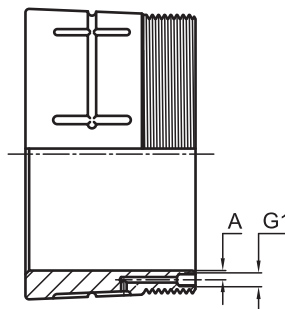
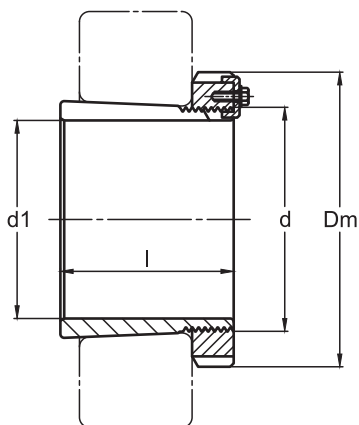
Nut for assembly	Locking device	Hook spanner	Hydraulic nut	Hydraulic pump	Bearings
HM 56T	MB 56		HMV 56E	BH 100	22256K • 23156K
HM 3156	MS 3152-MS 3156		HMV 56E	BH 100	22356K • 23256K
HM 56T	MB 56		HMV 56E	BH 100	22356K • 23256K
HM 3056	MS 3056		HMV 56E	BH 100	20256K • 23056K • C 3056K
HM 3156	MS 3152-MS 3156		HMV 56E	BH 100	22256K • 23156K
HM 56T	MB 56		HMV 56E	BH 100	22256K • 23156K
HM 3156	MS 3152-MS 3156		HMV 56E	BH 100	22356K • 23256K
HM 56T	MB 56		HMV 56E	BH 100	22356K • 23256K
HM 3060	MS 3060		HMV 60E	BH 100	23060K • C 3060K
HM 3160	MS 3160		HMV 60E	BH 100	22260K • 23160K • C 3160K
HM 3060	MS 3060		HMV 60E	BH 100	22260K • 23160K • C 3160K
HM 3160	MS 3160		HMV 60E	BH 100	22360K • 23260K
HM 3060	MS 3060		HMV 60E	BH 100	23060K • C 3060K
HM 3160	MS 3160		HMV 60E	BH 100	22260K • 23160K • C 3160K
HM 3060	MS 3060		HMV 60E	BH 100	22260K • 23160K • C 3160K
HM 3160	MS 3160		HMV 60E	BH 100	22360K • 23260K
HM 3064	MS 3064-MS 3068		HMV 64E	BH 100	23064K • C 3064K
HM 3164	MS 3164		HMV 64E	BH 100	22264K • 23164K • C 3164K
HM 3064	MS 3064-MS 3068		HMV 64E	BH 100	22264K • 23164K • C 3164K
HM 3164	MS 3164		HMV 64E	BH 100	22364K • 23264K
HM 3068	MS 3064-MS 3068		HMV 68E	BH 100	23068K • C 3068K
HM 3168	MS 3168-MS 3172		HMV 68E	BH 100	23168K • C 3168K
HM 3068	MS 3064-MS 3068		HMV 68E	BH 100	23168K • C 3168K
HM 3168	MS 3168-MS 3172		HMV 68E	BH 100	22368K • 23268K
HM 3068	MS 3064-MS 3068		HMV 68E	BH 100	23068K • C 3068K
HM 3168	MS 3168-MS 3172		HMV 68E	BH 100	23168K • C 3168K
HM 3068	MS 3064-MS 3068		HMV 68E	BH 100	23168K • C 3168K
HM 3168	MS 3168-MS 3172		HMV 68E	BH 100	22368K • 23268K
HM 3072	MS 3072		HMV 72E	BH 100	23072K • C 3072K

ADAPTER SLEEVE HE, HA, HS, OHE...H, OHA...H, OHS...H for shafts in inch

Code	Code (hydraulics)	d1 (pol.)	d2 (mm)	Thread* (mm)	l (mm)	Dm (mm)	Weight (Kg)	HIDRAULIC (A)	Extension tube
HE 3172	OHE 3172H	13"	360	TR 360X5	259	460	54.20	6.0	M6 TE M6 01 ou 02
HE 3172 TL	OHE 3172HTL	13"	360	TR 360X5	259	460	36.60	6.0	M6 TE M6 01 ou 02
HE 3272	OHE 3272H	13"	360	TR 360X5	299	460	60.50	6.0	M6 TE M6 01 ou 02
HA 3072	OHA 3072H	13.7/16"	360	TR 360X5	188	420	30.50	3.2	M4 TE M4 01
HA 3172	OHA 3172H	13.7/16"	360	TR 360X5	259	460	54.20	3.2	M4 TE M4 01
HA 3172 TL	OHA 3172HTL	13.7/16"	360	TR 360X5	259	460	36.60	3.2	M4 TE M4 01
HA 3272	OHA 3272H	13.7/16"	360	TR 360X5	299	460	60.50	3.2	M4 TE M4 01
HA 3076	OHA 3076H	13.15/16"	380	TR 380X5	193	450	35.80	5.0	M6 TE M6 01 ou 02
HA 3176	OHA 3176H	13.15/16"	380	TR 380X5	264	490	61.70	5.0	M6 TE M6 01 ou 02
HA 3176 TL	OHA 3176HTL	13.15/16"	380	TR 380X5	264	490	42.60	5.0	M6 TE M6 01 ou 02
HA 3276	OHA 3276H	13.15/16"	380	TR 380X5	310	490	69.50	5.0	M6 TE M6 01 ou 02
HE 3076	OHE 3076H	14"	380	TR 380X5	193	450	35.80	4.6	M6 TE M6 01 ou 02
HE 3176	OHE 3176H	14"	380	TR 380X5	264	490	61.70	4.6	M6 TE M6 01 ou 02
HE 3176 TL	OHE 3176HTL	14"	380	TR 380X5	264	490	42.60	4.6	M6 TE M6 01 ou 02
HE 3276	OHE 3276H	14"	380	TR 380X5	310	490	69.50	4.6	M6 TE M6 01 ou 02
HE 3080	OHE 3080H	15"	400	TR 400X5	210	470	41.30	3.3	M4 TE M4 01
HE 3180	OHE 3180H	15"	400	TR 400X5	272	520	63.20	3.3	M4 TE M4 01
HE 3180 TL	OHE 3180HTL	15"	400	TR 400X5	272	520	46.20	3.3	M4 TE M4 01
HE 3280	OHE 3280H	15"	400	TR 400X5	328	520	81.00	3.3	M4 TE M4 01
HE 3084	OHE 3084H	15.3/4"	420	TR 420X5	212	490	47.00	3.5	M6 TE M6 01 ou 02
HE 3184	OHE 3184H	15.3/4"	420	TR 420X5	304	540	80.00	3.5	M6 TE M6 01 ou 02
HE 3184 TL	OHE 3184HTL	15.3/4"	420	TR 420X5	304	540	60.60	3.5	M6 TE M6 01 ou 02
HE 3284	OHE 3284H	15.3/4"	420	TR 420X5	352	540	94.00	3.5	M6 TE M6 01 ou 02
HE 3088	OHE 3088H	16"	440	TR 440X5	228	520	65.00	6.9	M8 TE M8 01
HE 3188	OHE 3188H	16"	440	TR 440X5	307	560	95.00	6.9	M8 TE M8 01
HE 3188 TL	OHE 3188HTL	16"	440	TR 440X5	307	560	77.00	6.9	M8 TE M8 01
HE 3288	OHE 3288H	16"	440	TR 440X5	361	560	118.00	6.9	M8 TE M8 01
HE 3092	OHE 3092H	17"	460	TR 460X5	234	540	71.00	5.6	M8 TE M8 01
HE 3192	OHE 3192H	17"	460	TR 460X5	326	580	119.00	5.6	M8 TE M8 01
HE 3192 TL	OHE 3192HTL	17"	460	TR 460X5	326	580	84.80	5.6	M8 TE M8 01
HE 3292	OHE 3292H	17"	460	TR 460X5	382	580	132.00	5.6	M8 TE M8 01

* Example of thread code: TR 300X4: trapezoidal metric thread, 300: thread diameter, 4: thread pitch.

* Suffix TL: Sleeve of the serie 3100 assembled with nut HM 3000 and locking device MS 3000.



**REPRESENTATION OF
OIL GROOVE FOR HYDRAULIC SLEEVES OHE...H,
OHA...H, OHS...H**

ADAPTER SLEEVE HE, HA, HS WITH MS

TOOLS OF ASSEMBLY AND DISASSEMBLY

Nut for assembly	Locking device	Hook spanner	Hydraulic nut	Hydraulic pump	Bearings
HM 3172	MS 3168-MS 3172		HMV 72E	BH 100	23172K • C 3172K
HM 3072	MS 3072		HMV 72E	BH 100	23172K • C 3172K
HM 3172	MS 3168-MS 3172		HMV 72E	BH 100	22372K • 23272K
HM 3072	MS 3072		HMV 72E	BH 100	23072K • C 3072K
HM 3172	MS 3168-MS 3172		HMV 72E	BH 100	23172K • C 3172K
HM 3072	MS 3072		HMV 72E	BH 100	23172K • C 3172K
HM 3172	MS 3168-MS 3172		HMV 72E	BH 100	22372K • 23272K
HM 3076	MS 3076-MS 3080		HMV 76E	BH 100	23076K • C 3076K
HM 3176	MS 3176		HMV 76E	BH 100	23176K
HM 3076	MS 3076-MS 3080		HMV 76E	BH 100	23176K
HM 3176	MS 3176		HMV 76E	BH 100	22376K • 23276K
HM 3076	MS 3076-MS 3080		HMV 76E	BH 100	23076K • C 3076K
HM 3176	MS 3176		HMV 76E	BH 100	23176K
HM 3076	MS 3076-MS 3080		HMV 76E	BH 100	23176K
HM 3176	MS 3176		HMV 76E	BH 100	22376K • 23276K
HM 3080	MS 3076-MS 3080		HMV 80E	BH 100	23080K • C 3080K
HM 3180	MS 3180-MS 3184		HMV 80E	BH 100	23180K
HM 3080	MS 3076-MS 3080		HMV 80E	BH 100	23180K
HM 3180	MS 3180-MS 3184		HMV 80E	BH 100	22380K • 23280K
HM 3084	MS 3084		HMV 84E	BH 100	23084K • C 3084K
HM 3184	MS 3180-MS 3184		HMV 84E	BH 100	23184K • C 3184K
HM 3084	MS 3084		HMV 84E	BH 100	23184K • C 3184K
Hm 3184	MS 3180-MS 3184		HMV 84E	BH 100	22384K • 23284K
HM 3088	MS 3088-MS 3092		HMV 88E	BH 100	23088K
HM 3188	MS 3188-MS 3192		HMV 88E	BH 100	23188K
HM 3088	MS 3088-MS 3092		HMV 88E	BH 100	23188K
HM 3188	MS 3188-MS 3192		HMV 88E	BH 100	22388K • 23288K
HM 3092	MS 3088-MS 3092		HMV 92E	BH 100	23092K • C 3092K
HM 3192	MS 3188-MS 3192		HMV 92E	BH 100	23192K • C 3192K
HM 3092	MS 3088-MS 3092		HMV 92E	BH 100	23192K • C 3192K
HM 3192	MS 3188-MS 3192		HMV 92E	BH 100	22392K • 23292K



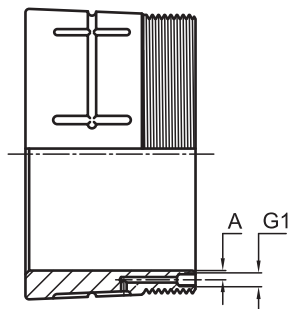
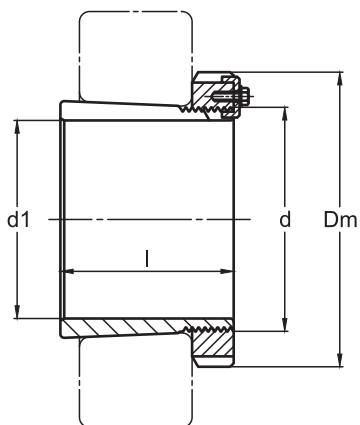
ADAPTER SLEEVE

HE, HA, HS, OHE...H, OHA...H, OHS...H

for shafts in inch

Code	Code (hydraulics)	d1 (pol.)	d2 (mm)	Thread* (mm)	l (mm)	Dm (mm)	Weight (Kg)	HIDRAULIC (A G1)	Extension tube
HE 3096	OHE 3096H	18"	480	TR 480X5	237	560	73.30	4.2 M6	TE M6 01 ou 02
HE 3196	OHE 3196H	18"	480	TR 480X5	335	620	135.00	4.2 M6	TE M6 01 ou 02
HE 3196 TL	OHE 3196HTL	18"	480	TR 480X5	335	620	89.70	4.2 M6	TE M6 01 ou 02
HE 3296	OHE 3296H	18"	480	TR 480X5	397	620	152.00	4.2 M6	TE M6 01 ou 02
HE 30/500	OHE 30/500H	18.1/2"	500	TR 500X5	247	580	82.00	6.1 M8	TE M8 01
HE 31/500	OHE 31/500H	18.1/2"	500	TR 500X5	356	630	145.00	6.1 M8	TE M8 01
HE 31/500TL	OHE 31/500HTL	18.1/2"	500	TR 500X5	356	630	103.80	6.1 M8	TE M8 01
HE 32/500	OHE 32/500H	18.1/2"	500	TR 500X5	428	630	166.00	6.1 M8	TE M8 01

* Example of thread code: TR 300X4: trapezoidal metric thread, 300: thread diameter, 4: thread pitch.
 * Sufix TL: Sleeve of the serie 3100 assembled with nut HM 3000 and locking device MS 3000.



**REPRESENTATION OF
OIL GROOVE FOR HYDRAULIC SLEEVES OHE...H,
OHA...H, OHS...H**

ADAPTER SLEEVE HE, HA, HS WITH MS

TOOLS OF ASSEMBLY AND DISASSEMBLY

Nut for assembly	Locking device	Hook spanner	Hydraulic nut	Hydraulic pump	Bearings
HM 3096	MS 3096-30/500		HMV 96E	BH 100	23096K • C 3096K
HM 3196	MS 3196		HMV 96E	BH 100	23196K
HM 3096	MS 3096-30/500		HMV 96E	BH 100	23196K
HM 3196	MS 3196		HMV 96E	BH 100	22396K • 23296K
HM 30/500	MS 3096-30/500		HMV 100E	BH 100	230/500K • C 30/500K
HM 31/500	MS 31/500		HMV 100E	BH 100	231/500K • C 31/500K
HM 30/500	MS 3096-30/500		HMV 100E	BH 100	231/500K • C 31/500K
HM 31/500	MS 31/500		HMV 100E	BH 100	223/500K • 232/500K



BERTOLOTO & GROTTA

WITHDRAWAL SLEEVES



WITHDRAWAL SLEEVES AH, AHX, AH...G, AHX...G

Even having the denomination “disassembly”, these components are used to fasten bearing with tapered bore on shaft with ledge for holding the bearing. In the assembly, they pushed into the tapered bore of the bearing by means of a nut threaded in the shaft or with plug at the shaft end. The thread of the withdrawal sleeve is applied to disassembly the set. Here comes its denomination as withdrawal sleeve. Its accessories: locknut, lockwasher and nut for disassembly must be requested separately.

Material: Nodular BGL with better characteristics as indicated in the standard DIN 1563, class GJS 500-7 (old GGG 50). Optional in carbon steel.



HYDRAULIC WITHDRAWAL SLEEVES AOH, AOHX, AOH... G, AOHX... G

With the same dimensions of the standard sleeves, these are recommended to shafts and sets of big dimensions, because they are provided with internal and external grooves for oil injection, making ease the assembly and mainly the disassembly. Available for shafts from 150 mm.

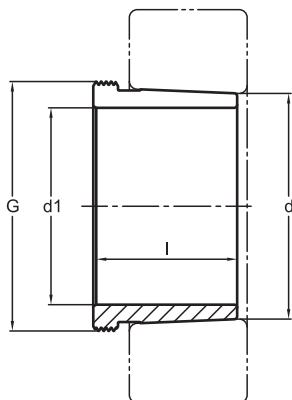
Material: Nodular BGL with better characteristics as indicated in the standard DIN 1563, class GJS 500-7 (old GGG 50). Optional in carbon steel.

OBS: The suffix “G” is the new padronization of threads of the withdrawal sleeves of different series

WITHDRAWAL SLEEVE AH, AHX

Withdrawal Sleeve

Code	Code (Hydraulics)	d1 (mm)	d (mm)	l (mm)	G*	Weight (Kg)	NUT+LOCKING DEVICE FOR Assembly (nut for assembly locking device)	
AH 208		35	40	25	M 45X1,5	0,08	KM 7	MB 7
AH 308		35	40	29	M 45X1,5	0,08	KM 7	MB 7
AH 2308		35	40	40	M 45X1,5	0,11	KM 7	MB 7
AH 209		40	45	26	M 50X1,5	0,09	KM 8	MB 8
AH 309		40	45	31	M 50X1,5	0,09	KM 8	MB 8
AH 2309		40	45	44	M 50X1,5	0,14	KM 8	MB 8
AH 210		45	50	28	M 55X2	0,114	KM 9	MB 9
AHX 310		45	50	35	M 55X2	0,12	KM 9	MB 9
AHX 2310		45	50	50	M 55X2	0,18	KM 9	MB 9
AH 211		50	55	29	M 60X2	0,132	KM 10	MB 10
AHX 311		50	55	37	M 60X2	0,14	KM 10	MB 10
AHX 2311		50	55	54	M 60X2	0,22	KM 10	MB 10
AH 212		55	60	32	M 65X2	0,161	KM 11	MB 11
AHX 312		55	60	40	M 65X2	0,16	KM 11	MB 11
AHX 2312		55	60	58	M 65X2	0,26	KM 11	MB 11
AH 213		60	65	32,5	M 75X2	0,21	KM 12	MB 12
AH 313		60	65	42	M 75X2	0,22	KM 12	MB 12
AH 313 G		60	65	42	M 70X2	0,35	KM 12	MB 12
AH 2313		60	65	61	M 75X2	0,35	KM 12	MB 12
AH 2313 G		60	65	61	M 70X2	0,39	KM 12	MB 12
AH 214		65	70	33,5	M 80X2	0,24	KM 13	MB 13
AH 314		65	70	43	M 80X2	0,24	KM 13	MB 13
AH 314 G		65	70	43	M 75X2	0,24	KM 13	MB 13
AHX 2314		65	70	64	M 80X2	0,41	KM 13	MB 13
AHX 2314 G		65	70	64	M 75X2	0,42	KM 13	MB 13
AH 215		70	75	34,5	M 85X2	0,25	KM 14	MB 14
AH 315		70	75	45	M 85X2	0,28	KM 14	MB 14
AH 315 G		70	75	45	M 80X2	0,28	KM 14	MB 14
AHX 2315		70	75	68	M 85X2	0,47	KM 14	MB 14
AHX 2315 G		70	75	68	M 80X2	0,47	KM 14	MB 14
AH 216		75	80	35,5	M 90X2	0,28	KM 15	MB 15
AH 316		75	80	48	M 90X2	0,32	KM 15	MB 15

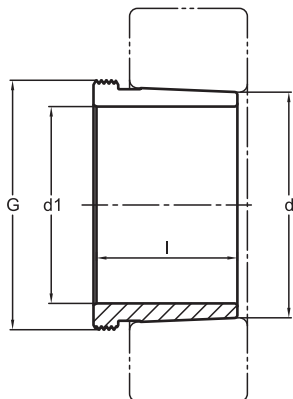


WITHDRAWAL SLEEVE AH, AHX

TOOLS OF ASSEMBLY		TOOLS OF DISASSEMBLY		Hydraulic nut	Bearings
Hook spanner	Hydraulic nut	Nut for disassembly	Hook spanner		
HN 7		KM 9	HN 9		1208K • 20208K
HN 7		KM 9	HN 9		1308K • 21308K • 2208K • 22208K • C 2208K
HN 7		KM 9	HN 9		22308K • 2308K
HN 8		KM 10	HN 10	HMV 10E	1209K • 20209K
HN 8		KM 10	HN 10	HMV 10E	1309K • 21309K • 2209K • 22209K • C 2209K
HN 8		KM 10	HN 10	HMV 10E	22309K • 2309K
HN 9		KM 11	HN 11	HMV 11E	1210K • 20210K
HN 9		KM 11	HN 11	HMV 11E	1310K • 21310K • 2210K • 22210K • C 2210K
HN 9		KM 11	HN 11	HMV 11E	22310K • 2310K
HN 10	HMV 10E	KM 12	HN 12	HMV 12E	1211K • 20211K
HN 10	HMV 10E	KM 12	HN 12	HMV 12E	1311K • 21311K • 2211K • 22211K • C 2211K
HN 10	HMV 10E	KM 12	HN 12	HMV 12E	22311K • 2311K
HN 11	HMV 11E	KM 13	HN 13	HMV 13E	1212K • 20212K
HN 11	HMV 11E	KM 13	HN 13	HMV 13E	1312K • 21312K • 2212K • 22212K • C 2212K
HN 11	HMV 11E	KM 13	HN 13	HMV 13E	22312K • 2312K
HN 12	HMV 12E	KM 15	HN 15	HMV 15E	1213K • 20213K
HN 12	HMV 12E	KM 15	HN 15	HMV 15E	1313K • 21313K • 2213K • 22213K
HN 12	HMV 12E	KM 14	HN 14	HMV 14E	1313K • 21313K • 2213K • 22213K • C 2213K
HN 12	HMV 12E	KM 15	HN 15	HMV 15E	22313K • 2313K
HN 12	HMV 12E	KM 14	HN 14	HMV 14E	22313K • 2313K
HN 13	HMV 13E	KM 16	HN 16	HMV 16E	1214K • 20214K
HN 13	HMV 13E	KM 16	HN 16	HMV 16E	1314K • 21314K • 2214K • 22214K
HN 13	HMV 13E	KM 15	HN 15	HMV 15E	1314K • 21314K • 2214K • 22214K • C 2214K
HN 13	HMV 13E	KM 16	HN 16	HMV 16E	22314K • 2314K
HN 13	HMV 13E	KM 15	HN 15	HMV 15E	22314K • 2314K • C 2314K
HN 14	HMV 14E	KM 17	HN 17	HMV 17E	1215K • 20215K
HN 14	HMV 14E	KM 17	HN 17	HMV 17E	1315K • 21315K • 2215K • 22215K
HN 14	HMV 14E	KM 16	HN 16	HMV 16E	1315K • 21315K • 2215K • 22215K • C 2215K
HN 14	HMV 14E	KM 17	HN 17	HMV 17E	22315K • 2315K
HN 14	HMV 14E	KM 16	HN 16	HMV 16E	22315K • 2315K • C 2315K
HN 15	HMV 15E	KM 18	HN 18	HMV 18E	1216K • 20216K
HN 15	HMV 15E	KM 18	HN 18	HMV 18E	1316K • 21316K • 2216K • 22216K • C 2216K

WITHDRAWAL SLEEVE AH, AHX

Code	Code (Hydraulics)	d1 (mm)		l (mm)		G*	Weight (Kg)	NUT+LOCKING DEVICE FOR	
								Assembly (nut for assembly)	locking device)
AHX 2316		75	80	71	M 90X2		0,52	KM 15	MB 15
AH 217		80	85	38,5	M 95X2		0,31	KM 16	MB 16
AHX 317		80	85	52	M 95X2		0,38	KM 16	MB 16
AHX 2317		80	85	74	M 95X2		0,58	KM 16	MB 16
AH 218		85	90	40	M 100X2		0,35	KM 17	MB 17
AHX 318		85	90	53	M 100X2		0,45	KM 17	MB 17
AHX 2318		85	90	79	M 100X2		0,68	KM 17	MB 17
AHX 3218		85	90	63	M 100X2		0,51	KM 17	MB 17
AH 219		90	95	43	M 105X2		0,40	KM 18	MB 18
AHX 319		90	95	57	M 105X2		0,47	KM 18	MB 18
AHX 2319		90	95	85	M 105X2		0,80	KM 18	MB 18
AHX 3219		90	95	67	M 105X2		0,62	KM 18	MB 18
AH 220		95	100	45	M 110X2		0,48	KM 19	MB 19
AHX 320		95	100	59	M 110X2		0,52	KM 19	MB 19
AHX 2320		95	100	90	M 110X2		0,90	KM 19	MB 19
AHX 3120		95	100	64	M 110X2		0,58	KM 19	MB 19
AHX 3220		95	100	73	M 110X2		0,69	KM 19	MB 19
AH 222		105	110	50	M 120X2		0,54	KM 21	MB 21
AHX 322		105	110	63	M 120X2		0,63	KM 21	MB 21
AHX 2322		105	110	98	M 125X2		1,22	KM 21	MB 21
AHX 2322 G		105	110	98	M 120X2		1,22	KM 21	MB 21
AHX 3122		105	110	68	M 120X2		0,68	KM 21	MB 21
AHX 3222		105	110	82	M 125X2		0,93	KM 21	MB 21
AHX 3222 G		105	110	82	M 120X2		0,93	KM 21	MB 21
AH 24122		105	110	82	M 115X2		0,64	KM 21	MB 21
AHX 2324		115	120	105	M 135X2		1,43	KM 23	MB 23
AHX 2324 G		115	120	105	M 130X2		1,43	KM 23	MB 23
AHX 3024		115	120	60	M 130X2		0,66	KM 23	MB 23
AHX 3124		115	120	75	M 130X2		0,85	KM 23	MB 23
AHX 3224		115	120	90	M 135X2		1,16	KM 23	MB 23
AHX 3224 G		115	120	90	M 130X2		1,16	KM 23	MB 23
AH 24024		115	120	73	M 125X2		0,62	KM 23	MB 23



WITHDRAWAL SLEEVE AH, AHX

TOOLS OF ASSEMBLY

TOOLS OF DISASSEMBLY

**Hook
spanner**

**Hydraulic
nut**

**Nut for
disassembly**

**Hook
spanner**

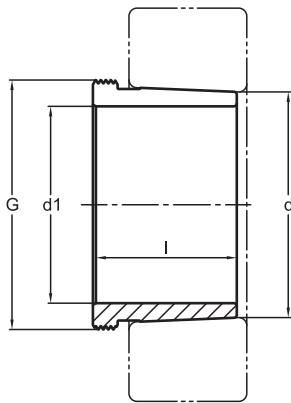
**Hydraulic
nut**

Bearings

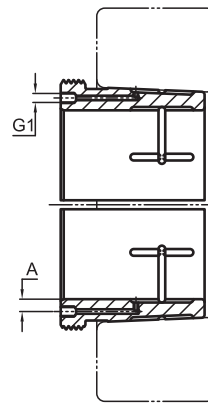
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HN 16	HMV 16E	KM 19	HN 19	HMV 19E	1217K • 20217K
HN 16	HMV 16E	KM 19	HN 19	HMV 19E	1317K • 21317K • 2217K • 22217K • C 2217K
HN 16	HMV 16E	KM 19	HN 19	HMV 19E	22317K • 2317K • C 2317K
HN 17	HMV 17E	KM 20	HN 20	HMV 20E	1218K • 20218K
HN 17	HMV 17E	KM 20	HN 20	HMV 20E	1318K • 21318K • 2218K • 22218K • C 2218K
HN 17	HMV 17E	KM 20	HN 20	HMV 20E	22318K • 2318K • C 2318K
HN 17	HMV 17E	KM 20	HN 20	HMV 20E	23218K
HN 18	HMV 18E	KM 21	HN 21	HMV 21E	1219K • 20219K
HN 18	HMV 18E	KM 21	HN 21	HMV 21E	1319K • 21319K • 2219K • 22219K • C 2219K
HN 18	HMV 18E	KM 21	HN 21	HMV 21E	22319K • 2319K • C 2319K
HN 18	HMV 18E	KM 21	HN 21	HMV 21E	23219K
HN 19	HMV 19E	KM 22	HN 22	HMV 22E	1220K • 20220K
HN 19	HMV 19E	KM 22	HN 22	HMV 22E	1320K • 21320K • 2220K • 22220K • C 2220K
HN 19	HMV 19E	KM 22	HN 22	HMV 22E	22320K • 2320K • C 2320K
HN 19	HMV 19E	KM 22	HN 22	HMV 22E	23120K • C 3120K
HN 19	HMV 19E	KM 22	HN 22	HMV 22E	23220K
HN 21	HMV 21E	KM 24	HN 24	HMV 24E	1222K • 20222K
HN 21	HMV 21E	KM 24	HN 24	HMV 24E	21322K • 23022K
HN 21	HMV 21E	KM 25	HN 25	HMV 25E	22322K
HN 21	HMV 21E	KM 24	HN 24	HMV 24E	22322K
HN 21	HMV 21E	KM 24	HN 24	HMV 24E	22222K • 23122K • C 2222K • C 3022K
HN 21	HMV 21E	KM 25	HN 25	HMV 25E	23222K
HN 21	HMV 21E	KM 24	HN 24	HMV 24E	23222K
HN 21	HMV 21E	KM 23	HN 23	HMV 23E	24122K30 • C 4122K30
HN 23	HMV 23E	KM 27	HN 27	HMV 27E	22324K
HN 23	HMV 23E	KM 26	HN 26	HMV 26E	22324K
HN 23	HMV 23E	KM 26	HN 26	HMV 26E	23024K • C 3024K
HN 23	HMV 23E	KM 26	HN 26	HMV 26E	22224K • 23124K • C 2224K
HN 23	HMV 23E	KM 27	HN 27	HMV 27E	23224K
HN 23	HMV 23E	KM 26	HN 26	HMV 26E	23224K • C 3224K
HN 23	HMV 23E	KM 25	HN 25	HMV 25E	24024K30 • C 4024K30

WITHDRAWAL SLEEVE AH, AHX, AOH, AOHX

Code	Code (Hydraulics)	d1 (mm)	d (mm)	l (mm)	G*	Weight (Kg)	Hydraulic (A)	NUT+LOCKING DEVICE		Hydraulic pump	Extension tube
								Nut for assembly	Locking device		
AH 24124		115	120	93	M 130X2	0,90		KM 23	MB 23		
AHX 2326		125	130	115	M 145X2	1,77		KM 25	MB 25		
AHX 2326 G		125	130	115	M 140X2	1,77		KM 25	MB 25		
AHX 3026		125	130	67	M 140X2	0,93		KM 25	MB 25		
AHX 3126		125	130	78	M 140X2	0,97		KM 25	MB 25		
AHX 3226		125	130	98	M 145X2	1,41		KM 25	MB 25		
AHX 3226 G		125	130	98	M 140X2	1,41		KM 25	MB 25		
AH 24026		125	130	83	M 135X2	0,77		KM 25	MB 25		
AH 24126		125	130	94	M 140X2	1,00		KM 25	MB 25		
AHX 2328		135	140	125	M 155X3	2,08		KM 27	MB 27		
AHX 2328 G		135	140	125	M 150X2	2,08		KM 27	MB 27		
AHX 3028		135	140	68	M 150X2	0,89		KM 27	MB 27		
AHX 3128		135	140	83	M 150X2	1,13		KM 27	MB 27		
AHX 3228		135	140	104	M 155X3	1,63		KM 27	MB 27		
AHX 3228 G		135	140	104	M 150X2	1,63		KM 27	MB 27		
AH 24028		135	140	83	M 145X2	0,83		KM 27	MB 27		
AH 24128		135	140	99	M 150X2	1,25		KM 27	MB 27		
AHX 2330		145	150	135	M 165X3	2,50		KM 29	MB 29		
AHX 2330 G		145	150	135	M 160X3	2,50		KM 29	MB 29		
AHX 3030		145	150	72	M 160X3	1,02		KM 29	MB 29		
AHX 3130		145	150	96	M 165X3	1,79		KM 29	MB 29		
AHX 3130 G		145	150	96	M 160X3	1,79		KM 29	MB 29		
AHX 3230		145	150	114	M 165X3	2,00		KM 29	MB 29		
AHX 3230 G		145	150	114	M 160X3	2,00		KM 29	MB 29		
AH 24030		145	150	90	M 155X3	0,95		KM 29	MB 29		
AH 24130		145	150	115	M 160X3	1,46		KM 29	MB 29		
AH 2332	AOH 2332	150	160	140	M 180X3	4,20	5.0 M6	KM 30	MB 30	BH 100	TE M6 01 ou 02
AH 2332 G	AOH 2332 G	150	160	140	M 170X3	4,20	4.0 M6	KM 30	MB 30	BH 100	TE M6 01 ou 02
AH 3032	AOH 3032	150	160	77	M 170X3	1,83	4.2 M6	KM 30	MB 30	BH 100	TE M6 01 ou 02
AH 3132	AOH 3132	150	160	103	M 180X3	2,88	4.7 M6	KM 30	MB 30	BH 100	TE M6 01 ou 02
AH 3132 G	AOH 3132 G	150	160	103	M 170X3	2,88	4.0 M6	KM 30	MB 30	BH 100	TE M6 01 ou 02
AH 3232	AOH 3232	150	160	124	M 180X3	3,60	5.0 M6	KM 30	MB 30	BH 100	TE M6 01 ou 02
AH 3232 G	AOH 3232 G	150	160	124	M 170X3	3,60	4.0 M6	KM 30	MB 30	BH 100	TE M6 01 ou 02
AH 24032		150	160	95	M 170X3	2,07		KM 30	MB 30		
AH 24132		150	160	124	M 170X3	2,67		KM 30	MB 30		



**WITHDRAWAL SLEEVE
AH, AHX**



**HYDRAULIC WITHDRAWAL SLEEVE
AOH, AOHX**

TOOLS OF ASSEMBLY

**Hook
spanner**

**Hydraulic
nut**

TOOLS OF DISASSEMBLY

**Nut for
disassembly**

**Hook
spanner**

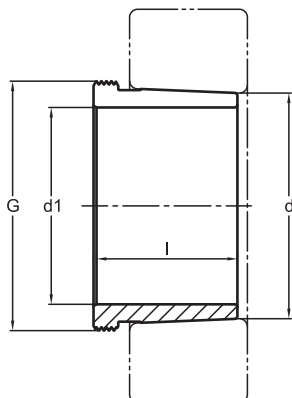
**Hydraulic
nut**

Bearings

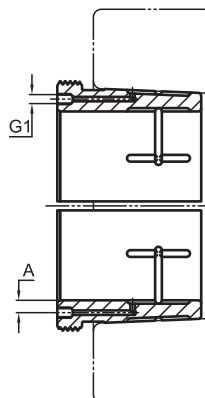
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HN 25	HMV 25E	KM 28	HN 28	HMV 28E	22226K • 23126K • C 2226K
HN 25	HMV 25E	KM 29	HN 29	HMV 29E	23226K
HN 25	HMV 25E	KM 28	HN 28	HMV 28E	23226K
HN 25	HMV 25E	KM 27	HN 27	HMV 27E	24026K30 • C 4026K30
HN 25	HMV 25E	KM 28	HN 28	HMV 28E	24126K30 • C 4126K30
HN 27	HMV 27E	KM 31	HN 31	HMV 31E	22328K
HN 27	HMV 27E	KM 30	HN 30	HMV 30E	22328K
HN 27	HMV 27E	KM 30	HN 30	HMV 30E	23028K • C 3028K
HN 27	HMV 27E	KM 30	HN 30	HMV 30E	22228K • 23128K • C 2228K
HN 27	HMV 27E	KM 31	HN 31	HMV 31E	23228K
HN 27	HMV 27E	KM 30	HN 30	HMV 30E	23228K
HN 27	HMV 27E	KM 29	HN 29	HMV 29E	24028K30 • C 4028K30
HN 27	HMV 27E	KM 30	HN 30	HMV 30E	24128K30 • C 4128K30
HN 29	HMV 29E	KM 33	HN 33	HMV 33E	22330K
HN 29	HMV 29E	KM 32	HN 32	HMV 32E	22330K
HN 29	HMV 29E	KM 32	HN 32	HMV 32E	23030K • C 3030K
HN 29	HMV 29E	KM 33	HN 33	HMV 33E	22230K • 23130K
HN 29	HMV 29E	KM 32	HN 32	HMV 32E	22230K • 23130K • C 2230K • C 3130K
HN 29	HMV 29E	KM 33	HN 33	HMV 33E	23230K
HN 29	HMV 29E	KM 32	HN 32	HMV 32E	23230K
HN 29	HMV 29E	KM 31	HN 31	HMV 31E	24030K30 • C 4030K30
HN 29	HMV 29E	KM 32	HN 32	HMV 32E	24130K30 • C 4130K30
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HN 30	HMV 30E	KM 34	HN 34	HMV 34E	23032K • C 3032K
HN 30	HMV 30E	KM 36	HN 36	HMV 36E	22232K • 23132K
HN 30	HMV 30E	KM 34	HN 34	HMV 34E	22232K • 23132K • C 3132K
HN 30	HMV 30E	KM 36	HN 36	HMV 36E	23232K
HN 30	HMV 30E	KM 34	HN 34	HMV 34E	23232K • C 3232K
HN 30	HMV 30E	KM 34	HN 34	HMV 34E	24032K30 • C 4032K30
HN 30	HMV 30E	KM 34	HN 34	HMV 34E	24132K30 • C 4132K30

WITHDRAWAL SLEEVE AH, AHX, AOH, AOHX

Code	Code (Hydraulics)	d1 (mm)	d (mm)	l (mm)	G*	Weight (Kg)	Hydraulic		NUT+LOCKING DEVICE		Hydraulic pump	Extension tube
							(A)	(G1)	Nut for assembly	Locking device		
AH 2334	AOH 2334	160	170	146	M 190X3	4,72	5.2	M6	KM 32	MB 32	BH 100	TE M6 01 ou 02
AH 2334 G	AOH 2334 G	160	170	146	M 180X3	4,72	4.0	M6	KM 32	MB 32	BH 100	TE M6 01 ou 02
AH 3034	AOH 3034	160	170	85	M 180X3	2,18	4.2	M6	KM 32	MB 32	BH 100	TE M6 01 ou 02
AH 3134	AOH 3134	160	170	104	M 190X3	3,09	4.7	M6	KM 32	MB 32	BH 100	TE M6 01 ou 02
AH 3134 G	AOH 3134 G	160	170	104	M 180X3	3,09	4.0	M6	KM 32	MB 32	BH 100	TE M6 01 ou 02
AH 3234	AOH 3234	160	170	134	M 190X3	4,23	5.0	M6	KM 32	MB 32	BH 100	TE M6 01 ou 02
AH 3234 G	AOH 3234 G	160	170	134	M 180X3	4,23	4.0	M6	KM 32	MB 32	BH 100	TE M6 01 ou 02
AH 3934	AOH 3934	160	170	59	M 180X3	1,59	4.0	M6	KM 32	MB 32	BH 100	TE M6 01 ou 02
AH 24034		160	170	106	M 180X3	2,44			KM 32	MB 32		
AH 24134		160	170	125	M 180X3	2,95			KM 32	MB 32		
AH 2236	AOH 2236	170	180	105	M 200X3	3,30	4.5	M6	KM 34	MB 34	BH 100	TE M6 01 ou 02
AH 2236 G	AOH 2236 G	170	180	105	M 190X3	3,30	4.0	M6	KM 34	MB 34	BH 100	TE M6 01 ou 02
AH 2336	AOH 2336	170	180	154	M 200X3	5,35	5.2	M6	KM 34	MB 34	BH 100	TE M6 01 ou 02
AH 2336 G	AOH 2336 G	170	180	154	M 190X3	5,35	4.0	M6	KM 34	MB 34	BH 100	TE M6 01 ou 02
AH 3036	AOH 3036	170	180	92	M 190X3	2,53	4.5	M6	KM 34	MB 34	BH 100	TE M6 01 ou 02
AH 3136	AOH 3136	170	180	116	M 200X3	3,77	5.0	M6	KM 34	MB 34	BH 100	TE M6 01 ou 02
AH 3136 G	AOH 3136 G	170	180	116	M 190X3	3,77	4.0	M6	KM 34	MB 34	BH 100	TE M6 01 ou 02
AH 3236	AOH 3236	170	180	140	M 200X3	4,76	5.2	M6	KM 34	MB 34	BH 100	TE M6 01 ou 02
AH 3236 G	AOH 3236 G	170	180	140	M 190X3	4,76	4.0	M6	KM 34	MB 34	BH 100	TE M6 01 ou 02
AH 3936	AOH 3936	170	180	66	M 190X3	1,91	4.0	M6	KM 34	MB 34	BH 100	TE M6 01 ou 02
AH 24036		170	180	116	M 190X3	2,86			KM 34	MB 34		
AH 24136		170	180	134	M 190X3	3,37			KM 34	MB 34		
AH 2238	AOH 2238	180	190	112	TR 210X4	3,78	4.8	M6	KM 36	MB 36	BH 100	TE M6 01 ou 02
AH 2238 G	AOH 2238 G	180	190	112	M 200X3	3,78	4.0	M6	KM 36	MB 36	BH 100	TE M6 01 ou 02
AH 2338	AOH 2338	180	190	160	TR 210X4	5,91	5.5	M6	KM 36	MB 36	BH 100	TE M6 01 ou 02
AH 2338 G	AOH 2338 G	180	190	160	M 200X3	5,91	4.0	M6	KM 36	MB 36	BH 100	TE M6 01 ou 02
AH 3038	AOH 3038	180	190	96	TR 205X4	3,01	4.5	M6	KM 36	MB 36	BH 100	TE M6 01 ou 02
AH 3038 G	AOH 3038 G	180	190	96	M 200X3	3,01	4.0	M6	KM 36	MB 36	BH 100	TE M6 01 ou 02
AH 3138	AOH 3138	180	190	125	TR 210X4	4,33	5.0	M6	KM 36	MB 36	BH 100	TE M6 01 ou 02
AH 3138 G	AOH 3138 G	180	190	125	M 200X3	4,33	4.0	M6	KM 36	MB 36	BH 100	TE M6 01 ou 02
AH 3238	AOH 3238	180	190	145	TR 210X4	5,20	5.2	M6	KM 36	MB 36	BH 100	TE M6 01 ou 02
AH 3238 G	AOH 3238 G	180	190	145	M 200X3	5,20	4.0	M6	KM 36	MB 36	BH 100	TE M6 01 ou 02
AH 3938	AOH 3938	180	190	66	M 200X3	2,02	4.0	M6	KM 36	MB 36	BH 100	TE M6 01 ou 02
AH 24038		180	190	118	M 200X3	3,10			KM 36	MB 36		
AH 24138		180	190	146	M 200X3	3,91			KM 36	MB 36		



**WITHDRAWAL SLEEVE
AH, AHX**



**HYDRAULIC WITHDRAWAL SLEEVE
AOH, AOHX**

TOOLS OF ASSEMBLY

**Hook
spanner**

**Hydraulic
nut**

TOOLS OF DISASSEMBLY

**Nut for
disassembly**

**Hook
spanner**

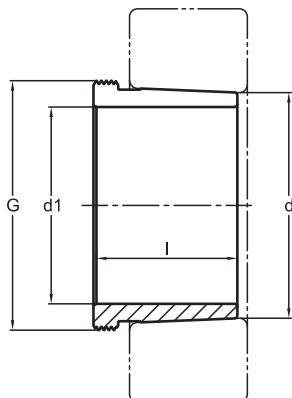
**Hydraulic
nut**

Bearings

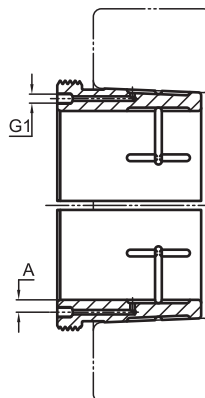
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HN 32	HMV 32E	KM 36	HN 36	HMV 36E	22334K
HN 32	HMV 32E	KM 36	HN 36	HMV 36E	23034K • C 3034K
HN 32	HMV 32E	KM 38	HN 38	HMV 38E	22234K • 23134K
HN 32	HMV 32E	KM 36	HN 36	HMV 36E	22234K • 23134K • C 2234K • C 3134K
HN 32	HMV 32E	KM 38	HN 38	HMV 38E	23234K
HN 32	HMV 32E	KM 36	HN 36	HMV 36E	23234K
HN 32	HMV 32E	HMLL 36	HN 32	HMV 36E	23934K
HN 32	HMV 32E	KM 36	HN 36	HMV 36E	24034K30 • C 4034K30
HN 32	HMV 32E	KM 36	HN 36	HMV 36E	24134K30 • C 4134K30
HN 34	HMV 34E	KM 40	HN 40	HMV 40E	22236K
HN 34	HMV 34E	KM 38	HN 38	HMV 38E	22236K
HN 34	HMV 34E	KM 40	HN 40	HMV 40E	22336K
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HN 34	HMV 34E	KM 40	HN 40	HMV 40E	23136K
HN 34	HMV 34E	KM 38	HN 38	HMV 38E	23136K • C 3136K
HN 34	HMV 34E	KM 40		HMV 40E	23236K
HN 34	HMV 34E	KM 38	HN 38	HMV 38E	23236K • C 3236K
HN 34	HMV 34E	HMLL 38	HN 34	HMV 38E	23936K
HN 34	HMV 34E	KM 38	HN 38	HMV 38E	24036K30 • C 4036K30
HN 34	HMV 34E	KM 38	HN 38	HMV 38E	24136K30 • C 4136K30
HN 36	HMV 36E	HM 42T	HN 40	HMV 42E	22238K
HN 36	HMV 36E	KM 40	HN 40	HMV 40E	22238K • C 2238K
HN 36	HMV 36E	HM 42T	HN 40	HMV 42E	22338K
HN 36	HMV 36E	KM 40	HN 40	HMV 40E	22338K
HN 36	HMV 36E	HML 41T	HN 40	HMV 41E	23038K
HN 36	HMV 36E	KM 40	HN 40	HMV 40E	23038K • C 3038K
HN 36	HMV 36E	HM 42T	HN 40	HMV 42E	23138K
HN 36	HMV 36E	KM 40	HN 40	HMV 40E	23138K • C 3138K
HN 36	HMV 36E	HM 42T	HN 40	HMV 42E	23238K
HN 36	HMV 36E	KM 40	HN 40	HMV 40E	23238K
HN 36	HMV 36E	HMLL 40	HN 38	HMV 40E	23938K
HN 36	HMV 36E	KM 40	HN 40	HMV 40E	24038K30 • C 4038K30
HN 36	HMV 36E	KM 40	HN 40	HMV 40E	24138K30 • C 4138K30

WITHDRAWAL SLEEVE AH, AHX, AOH, AOHX

Code	Code (Hydraulics)	d1 (mm)	d (mm)	l (mm)	G*	Weight (Kg)	Hydraulic (A)	G1	NUT+LOCKING DEVICE		Hydraulic pump	Extension tube
									Nut for assembly	Locking device		
AH 2240		190	200	118	TR 220X4	4,27	4.8	M6	KM 38	MB 38	BH 100	TE M6 01 ou 02
AH 2340	AOH 2340	190	200	170	TR 220X4	6,75	5.5	M6	KM 38	MB 38	BH 100	TE M6 01 ou 02
AH 3040	AOH 3040	190	200	102	TR 215X4	3,36	4.5	M6	KM 38	MB 38	BH 100	TE M6 01 ou 02
AH 3040 G	AOH 3040 G	190	200	102	TR 210X4	3,36	3.8	M6	KM 38	MB 38	BH 100	TE M6 01 ou 02
AH 3140	AOH 3140	190	200	134	TR 220X4	4,98	5.2	M6	KM 38	MB 38	BH 100	TE M6 01 ou 02
AH 3240	AOH 3240	190	200	153	TR 220X4	5,82	5.5	M6	KM 38	MB 38	BH 100	TE M6 01 ou 02
AH 3940	AOH 3940	190	200	77	TR 210X4	2,62	3.8	M6	KM 38	MB 38	BH 100	TE M6 01 ou 02
AH 24040		190	200	127	TR 210X4	3,54			KM 38	MB 38		
AH 24140		190	200	158	TR 210X4	4,50			KM 38	MB 38		
AH 2244	AOH 2244	200	220	130	TR 240X4	8,12	8.0	G1/8"	KM 40	MB 40	BH 100	TE 1/8 BSP 01
AH 2344	AOH 2344	200	220	181	TR 240X4	12,00	8.7	G1/8"	KM 40	MB 40	BH 100	TE 1/8 BSP 01
AH 3044	AOH 3044	200	220	111	TR 235X4	6,59	7.7	G1/8"	KM 40	MB 40	BH 100	TE 1/8 BSP 01
AH 3044 G	AOH 3044 G	200	220	111	TR 230X4	6,59	6.3	G1/8"	KM 40	MB 40	BH 100	TE 1/8 BSP 01
AH 3144	AOH 3144	200	220	145	TR 240X4	9,37	8.2	G1/8"	KM 40	MB 40	BH 100	TE 1/8 BSP 01
AH 3944	AOH 3944	200	220	77	TR 230X4	4,83		M8	HM 40	MB 40	BH 100	TE M8 01
AH 24044	AOH 24044	200	220	138	TR 230X4	7,38	7.0	M6	KM 40	MB 40	BH 100	TE M6 01 ou 02
AH 24144	AOH 24144	200	220	170	TR 230X4	9,23	7.0	G1/8"	KM 40	MB 40	BH 100	TE 1/8 BSP 01
AH 2248	AOH 2248	220	240	144	TR 260X4	11,10	8.2	G1/8"	HM 44T	MB 44	BH 100	TE 1/8 BSP 01
AH 2348	AOH 2348	220	240	189	TR 260X4	13,94	8.7	G1/8"	HM 44T	MB 44	BH 100	TE 1/8 BSP 01
AH 3048	AOH 3048	220	240	116	TR 260X4	7,95	7.7	G1/8"	HM 44T	MB 44	BH 100	TE 1/8 BSP 01
AH 3148	AOH 3148	220	240	154	TR 260X4	10,97	8.4	G1/8"	HM 44T	MB 44	BH 100	TE 1/8 BSP 01
AH 3948	AOH 3948	220	240	77	TR 250X4	5,29		M8	HM 3044	MS 3044	BH 100	TE M8 01
AH 24048	AOH 24048	220	240	138	TR 250X4	8,03	7.0	M6	HM 44T	MB 44	BH 100	TE M6 01 ou 02
AH 24148	AOH 24148	220	240	180	TR 260X4	11,40	7.0	G1/8"	HM 44T	MB 44	BH 100	TE 1/8 BSP 01
AH 2252	AOH 2252	240	260	155	TR 290X4	14,00	8.4	G1/8"	HM 48T	MB 48	BH 100	TE 1/8 BSP 01
AH 2252 G	AOH 2252 G	240	260	155	TR 280X4	14,00	8.4	G1/8"	HM 3048	MS 3048-MS 3052	BH 100	TE 1/8 BSP 01
AH 2352	AOH 2352	240	260	205	TR 290X4	14,80	8.7	G1/8"	HM 48T	MB 48	BH 100	TE 1/8 BSP 01
AH 2352 G	AOH 2352 G	240	260	205	TR 280X4	14,80	8.7	G1/8"	HM 3048	MS 3048-MS 3052	BH 100	TE 1/8 BSP 01
AH 3052	AOH 3052	240	260	128	TR 280X4	9,70	8.0	G1/8"	HM 48T	MB 48	BH 100	TE 1/8 BSP 01
AH 3152	AOH 3152	240	260	172	TR 290X4	14,39	8.7	G1/8"	HM 48T	MB 48	BH 100	TE 1/8 BSP 01
AH 3152 G	AOH 3152 G	240	260	172	TR 280X4	14,39	8.7	G1/8"	HM 3048	MS 3048-MS 3052	BH 100	TE 1/8 BSP 01
AH 3952	AOH 3952	240	260	94	TR 275X4	7,36		M8	HM 3048	MS 3048-MS 3052	BH 100	TE M8 01
AH 24052	AOH 24052	240	260	162	TR 270X4	10,43	7.0	M6	HM 48T	MB 48	BH 100	TE M6 01 ou 02
AH 24052 G	AOH 24052 G	240	260	162	TR 280X4	10,43	7.0	M6	HM 3048	MS 3048-MS 3052	BH 100	TE M6 01 ou 02
AH 24152	AOH 24152	240	260	202	TR 280X4	13,80	7.4	G1/8"	HM 48T	MB 48	BH 100	TE 1/8 BSP 01



**WITHDRAWAL SLEEVE
AH, AHX**



**HYDRAULIC WITHDRAWAL SLEEVE
AOH, AOHX**

TOOLS OF ASSEMBLY

**Hook
spanner**

**Hydraulic
nut**

TOOLS OF DISASSEMBLY

**Nut for
disassembly**

**Hook
spanner**

**Hydraulic
nut**

Bearings

HN 38	HMV 38E	HM 44T	HN 44	HMV 44E	22240K
HN 38	HMV 38E	HM 44T	HN 44	HMV 44E	22340K
HN 38	HMV 38E	HML 43T	HN 40	HMV 43E	23040K
HN 38	HMV 38E	HM 42T	HN 40	HMV 42E	23040K • C 3040K
HN 38	HMV 38E	HM 44T	HN 44	HMV 44E	23140K • C 3140K
HN 38	HMV 38E	HM 44T	HN 44	HMV 44E	23240K
HN 38	HMV 38E	HMLL 42T	HN 40	HMV 42E	23940K
HN 38	HMV 38E	HM 42T	HN 40	HMV 42E	24040K30 • C 4040K30
HN 38	HMV 38E	HM 42T	HN 40	HMV 42E	24140K30 • C 4140K30

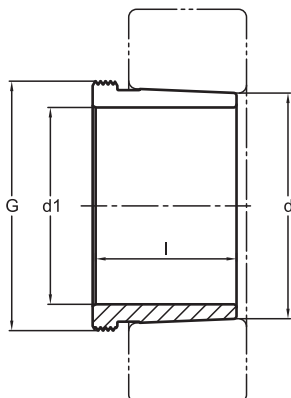
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HN 40	HMV 40E	HM 46T		HMV 46E	23044K • C 3044K
HN 40	HMV 40E	HM 48T		HMV 48E	23144K • C 3144K
HN 40	HMV 40E	HMLL 46T	HN 40	HMV 46E	23944K
HN 40	HMV 40E	HM 46T		HMV 46E	24044K30 • C 4044K30
HN 40	HMV 40E	HM 46T		HMV 46E	24144K30

HN 44	HMV 44E	HM 52T		HMV 52E	22248K
HN 44	HMV 44E	HM 52T		HMV 52E	22348K • C 2348K
HN 44	HMV 44E	HML 52T		HMV 52E	23048K • C 3048K
HN 44	HMV 44E	HM 52T		HMV 52E	23148K • C 3148K
HN 44	HMV 44E	HMLL 50T		HMV 50E	23948K
HN 44	HMV 44E	HM 50T		HMV 50E	24048K30
HN 44	HMV 44E	HM 52T		HMV 52E	24148K30

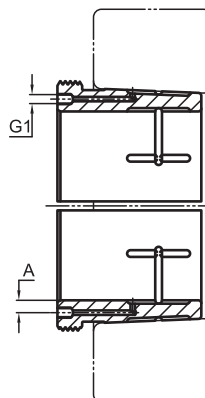
HMV 48E	HM 58T	HMV 58E	22252K
HMV 48E	HM 3056	HMV 56E	22252K
HMV 48E	HM 58T	HMV 58E	22352K • C 23252K
HMV 48E	HM 3056	HMV 56E	22352K • C 23252K
HMV 48E	HML 56T	HMV 56E	23052K • C 3052K
HMV 48E	HM 58T	HMV 58E	23152K
HMV 48E	HM 3056	HMV 56E	23152K • C 3152K
HMV 48E	HMLL 55T		23952K
HMV 48E	HM 54T	HMV 54E	24052K30
HMV 48E	HM 3056	HMV 56E	24052K30
HMV 48E	HM 56T	HMV 56E	24152K30

WITHDRAWAL SLEEVE AH, AHX, AOH, AOHX

Code	Code (Hydraulics)	d1 (mm)	d (mm)	l (mm)	G*	Weight (Kg)	Hydraulic (A G1)	NUT+LOCKING DEVICE		Hydraulic pump	Extension tube
								Nut for assembly	Locking device		
AH 2256	AOH 2256	260	280	155	TR 310X5	15,20	8.4 G1/8"	HM 52T	MB 52	BH 100	TE 1/8 BSP 01
AH 2256 G	AOH 2256 G	260	280	155	TR 300X4	15,20	8.4 G1/8"	HM 3052	MS 3048-MS 3052	BH 100	TE 1/8 BSP 01
AH 2356	AOH 2356	260	280	212	TR 310X5	19,80	8.9 G1/8"	HM 52T	MB 52	BH 100	TE 1/8 BSP 01
AH 2356 G	AOH 2356 G	260	280	212	TR 300X4	19,80	8.9 G1/8"	HM 3052	MS 3048-MS 3052	BH 100	TE 1/8 BSP 01
AH 3056	AOH 3056	260	280	131	TR 300X4	10,60	8.0 G1/8"	HM 52T	MB 52	BH 100	TE 1/8 BSP 01
AH 3156	AOH 3156	260	280	175	TR 310X5	15,80	8.7 G1/8"	HM 52T	MB 52	BH 100	TE 1/8 BSP 01
AH 3156 G	AOH 3156 G	260	280	175	TR 300X4	15,80	8.7 G1/8"	HM 3052	MS 3048-MS 3052	BH 100	TE 1/8 BSP 01
AH 3956	AOH 3956	260	280	94	TR 295X4	8,02	M8	HM 3052	MS 3048-MS 3052	BH 100	TE M8 01
AH 24056	AOH 24056	260	280	162	TR 290X4	11,40	7.0 M6	HM 52T	MB 52	BH 100	TE M6 01 ou 02
AH 24056 G	AOH 24056 G	260	280	162	TR 300X4	11,40	7.0 M6	HM 3052	MS 3048-MS 3052	BH 100	TE M6 01 ou 02
AH 24156	AOH 24156	260	280	202	TR 300X4	15,20	7.5 G1/8"	HM 52T	MB 52	BH 100	TE 1/8 BSP 01
AH 2260	AOH 2260	280	300	170	TR 330X5	18,10	8.7 G1/8"	HM 56T	MB 56	BH 100	TE 1/8 BSP 01
AH 2260 G	AOH 2260 G	280	300	170	TR 320X5	18,10	8.7 G1/8"	HM 3056	MS 3056	BH 100	TE 1/8 BSP 01
AH 3060	AOH 3060	280	300	145	TR 320X5	14,40	8.2 G1/8"	HM 56T	MB 56	BH 100	TE 1/8 BSP 01
AH 3160	AOH 3160	280	300	192	TR 330X5	19,00	9.0 G1/8"	HM 56T	MB 56	BH 100	TE 1/8 BSP 01
AH 3160 G	AOH 3160 G	280	300	192	TR 320X5	19,00	8.0 G1/8"	HM 3056	MS 3056	BH 100	TE 1/8 BSP 01
AH 3260	AOH 3260	280	300	228	TR 330X5	23,20	9.7 G1/8"	HM 56T	MB 56	BH 100	TE 1/8 BSP 01
AH 3260 G	AOH 3260 G	280	300	228	TR 320X5	23,20	9.7 G1/8"	HM 3056	MS 3056	BH 100	TE 1/8 BSP 01
AH 3960	AOH 3960	280	300	112	TR 315X5	10,50	M8	HM 3056	MS 3056	BH 100	TE M8 01
AH 24060	AOH 24060	280	300	184	TR 310X5	14,00	7.0 M6	HM 56T	MB 56	BH 100	TE M6 01 ou 02
AH 24060 G	AOH 24060 G	280	300	184	TR 320X5	14,00	7.0 M6	HM 3056	MS 3056	BH 100	TE M6 01 ou 02
AH 24160	AOH 24160	280	300	224	TR 320X5	18,20	7.4 G1/8"	HM 56T	MB 56	BH 100	TE 1/8 BSP 01
AH 2264	AOH 2264	300	320	180	TR 350X5	20,20	8.7 G1/8"	HM 3160	MS 3160	BH 100	TE 1/8 BSP 01
AH 2264 G	AOH 2264 G	300	320	180	TR 340X5	20,20	8.7 G1/8"	HM 3060	MS 3060	BH 100	TE 1/8 BSP 01
AH 3064	AOH 3064	300	320	149	TR 345X5	14,80	8.2 G1/8"	HM 3060	MS 3060	BH 100	TE 1/8 BSP 01
AH 3064 G	AOH 3064 G	300	320	149	TR 340X5	14,80	8.2 G1/8"	HM 3060	MS 3060	BH 100	TE 1/8 BSP 01
AH 3164	AOH 3164	300	320	209	TR 350X5	22,60	9.5 G1/8"	HM 3160	MS 3160	BH 100	TE 1/8 BSP 01
AH 3164 G	AOH 3164 G	300	320	209	TR 340X5	22,60	9.5 G1/8"	HM 3060	MS 3060	BH 100	TE 1/8 BSP 01
AH 3264	AOH 3264	300	320	246	TR 350X5	27,40	10.0 G1/8"	HM 3160	MS 3160	BH 100	TE 1/8 BSP 01
AH 3264 G	AOH 3264 G	300	320	246	TR 340X5	27,40	10.0 G1/8"	HM 3060	MS 3060	BH 100	TE 1/8 BSP 01
AH 3964	AOH 3964	300	320	112	TR 335X5	11,20	M8	HM 3060	MS 3060	BH 100	TE M8 01
AH 24064	AOH 24064	300	320	184	TR 330X5	16,60	7.0 M6	HM 3160	MS 3160	BH 100	TE M6 01 ou 02
AH 24064 G	AOH 24064 G	300	320	184	TR 340X5	16,60	7.0 M6	HM 3060	MS 3060	BH 100	TE M6 01 ou 02
AH 24164	AOH 24164	300	320	242	TR 340X5	21,20	7.9 G1/8"	HM 3160	MS 3160	BH 100	TE 1/8 BSP 01
AH 3068	AOH 3068	320	340	162	TR 365X5	17,30	8.4 G1/8"	HM 3064	MS 3064-MS 3068	BH 100	TE 1/8 BSP 01
AH 3068 G	AOH 3068 G	320	340	162	TR 360X5	17,30	8.4 G1/8"	HM 3064	MS 3064-MS 3068	BH 100	TE 1/8 BSP 01
AH 3168	AOH 3168	320	340	225	TR 370X5	26,20	9.7 G1/8"	HM 3164	MS 3164	BH 100	TE 1/8 BSP 01
AH 3168 G	AOH 3168 G	320	340	225	TR 360X5	24,80	9.7 G1/8"	HM 3064	MS 3064-MS 3068	BH 100	TE 1/8 BSP 01



**WITHDRAWAL SLEEVE
AH, AHX**



**HYDRAULIC WITHDRAWAL SLEEVE
AOH, AOHX**

TOOLS OF ASSEMBLY

**Hook
spanner**

**Hydraulic
nut**

**Nut for
disassembly**

TOOLS OF DISASSEMBLY

**Hook
spanner**

**Hydraulic
nut**

Bearings

HMV 52E

HM 62T

HMV 62E

22256K

HMV 52E

HM 3160

HMV 60E

22256K

HMV 52E

HM 62T

HMV 62E

22356K • 23256K

HMV 52E

HM 3160

HMV 60E

22356K • 23256K

HMV 52E

HML 60T

HMV 60E

23056K • C 3056K

HMV 52E

HM 62T

HMV 62E

23156K

HMV 52E

HM 3160

HMV 60E

23156K • C 3156K

HMV 52E

HMLL 59T

23956K

HMV 52E

HM 58T

HMV 58E

24056K30

HMV 52E

HM 3160

HMV 60E

24056K30

HMV 52E

HM 60T

HMV 60E

24156K30

HMV 56E

HM 66T

HMV 66E

22260K

HMV 56E

HM 3164

HMV 64E

22260K

HMV 56E

HML 64T

HMV 64E

23060K • C 3060K

HMV 56E

HM 66T

HMV 66E

23160K

HMV 56E

HM 3164

HMV 64E

23160K • C 3160K

HMV 56E

HM 66T

HMV 66E

22360K • 23260K

HMV 56E

HM 3164

HMV 64E

22360K • 23260K

HMV 56E

HMLL 63T

23960K

HMV 56E

HM 62T

HMV 62E

24060K30

HMV 56E

HM 3164

HMV 64E

24060K30 • C 4060K30

HMV 56E

HM 64T

HMV 64E

24160K30

HMV 60E

HM 70T

HMV 70E

22264K

HMV 60E

HM 3168

HMV 68E

22264K

HMV 60E

HML 69T

HMV 69E

23064K

HMV 60E

HM 3068

HMV 68E

23064K • C 3064K

HMV 60E

HM 70T

HMV 70E

23164K

HMV 60E

HM 3168

HMV 68E

23164K • C 3164K

HMV 60E

HM 70T

HMV 70E

22364K • 23264K

HMV 60E

HM 3168

HMV 68E

22364K • 23264K

HMV 60E

HMLL 67T

23964K

HMV 60E

HM 66T

HMV 66E

24064K30

HMV 60E

HM 3168

HMV 68E

24064K30

HMV 60E

HM 68T

HMV 68E

24164K30

HMV 64E

HML 73T

HMV 73E

23068K

HMV 64E

HM 3072

HMV 72E

23068K • C 3068K

HMV 64E

HM 74T

HMV 74E

23168K

HMV 64E

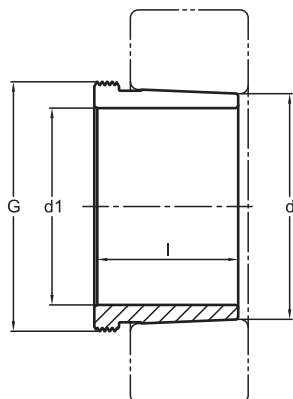
HM 3172

HMV 72E

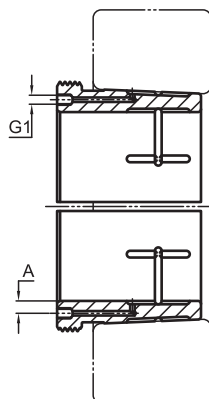
23168K • C 3168K

WITHDRAWAL SLEEVE AH, AHX, AOH, AOHX

Code	Code (Hydraulics)	d1 (mm)	d (mm)	l (mm)	G*	Weight (Kg)	Hydraulic (A G1)	NUT+LOCKING DEVICE		Hydraulic pump	Extension tube
								Nut for assembly	Locking device		
AH 3268	AOH 3268	320	340	264	TR 370X5	31,80	10.0 G1/8"	HM 3164	MS 3164	BH 100	TE 1/8 BSP 01
AH 3268 G	AOH 3268 G	320	340	264	TR 360X5	31,80	10.0 G1/8"	HM 3064	MS 3064-MS 3068	BH 100	TE 1/8 BSP 01
AH 3968	AOH 3968	320	340	112	TR 355X5	11,90	M8	HM 3064	MS 3064-MS 3068	BH 100	TE M8 01
AH 24068	AOH 24068	320	340	206	TR 360X5	21,70	7.5 G1/8"	HM 3164	MS 3164	BH 100	TE 1/8 BSP 01
AH 24168	AOH 24168	320	340	269	TR 360X5	27,10	8.0 G1/8"	HM 3164	MS 3164	BH 100	TE 1/8 BSP 01
AH 3072	AOH 3072	340	360	167	TR 385X5	19,00	8.4 G1/8"	HM 3068	MS 3064-MS 3068	BH 100	TE 1/8 BSP 01
AH 3072 G	AOH 3072 G	340	360	167	TR 380X5	19,00	8.4 G1/8"	HM 3068	MS 3064-MS 3068	BH 100	TE 1/8 BSP 01
AH 3172	AOH 3172	340	360	229	TR 400X5	29,60	9.7 G1/8"	HM 3168	MS 3168-MS 3172	BH 100	TE 1/8 BSP 01
AH 3172 G	AOH 3172 G	340	360	229	TR 380X5	29,60	9.7 G1/8"	HM 3068	MS 3064-MS 3068	BH 100	TE 1/8 BSP 01
AH 3272	AOH 3272	340	360	274	TR 400X5	41,50	G1/8"	HM 3168	MS 3168-MS 3172	BH 100	TE 1/8 BSP 01
AH 3272 G	AOH 3272 G	340	360	274	TR 380X5	41,50	G1/8"	HM 3068	MS 3064-MS 3068	BH 100	TE 1/8 BSP 01
AH 3972	AOH 3972	340	360	112	TR 375X5	12,60	M8	HM 3068	MS 3064-MS 3068	BH 100	TE M8 01
AH 24072	AOH 24072	340	360	206	TR 380X5	22,70	7.5 G1/8"	HM 3168	MS 3168-MS 3172	BH 100	TE 1/8 BSP 01
AH 24172	AOH 24172	340	360	269	TR 380X5	27,00	7.95 G1/8"	HM 3168	MS 3168-MS 3172	BH 100	TE 1/8 BSP 01
AH 3076	AOH 3076	360	380	170	TR 410X5	21,40	8.4 G1/8"	HM 3072	MS 3072	BH 100	TE 1/8 BSP 01
AH 3076 G	AOH 3076 G	360	380	170	TR 400X5	21,40	8.4 G1/8"	HM 3072	MS 3072	BH 100	TE 1/8 BSP 01
AH 3176	AOH 3176	360	380	232	TR 420X5	35,70	9.7 G1/8"	HM 3172	MS 3168-MS 3172	BH 100	TE 1/8 BSP 01
AH 3176 G	AOH 3176 G	360	380	232	TR 400X5	35,70	9.7 G1/8"	HM 3072	MS 3072	BH 100	TE 1/8 BSP 01
AH 3276	AOH 3276	360	380	284	TR 420X5	45,60	G1/8"	HM 3172	MS 3168-MS 3172	BH 100	TE 1/8 BSP 01
AH 3276 G	AOH 3276 G	360	380	284	TR 400X5	45,60	G1/8"	HM 3072	MS 3072	BH 100	TE 1/8 BSP 01
AH 3976	AOH 3976	360	380	130	TR 395X5	15,40	M8	HM 3072	MS 3072	BH 100	TE M8 01
AH 24076	AOH 24076	360	380	208	TR 400X5	23,70	7.5 G1/8"	HM 3172	MS 3168-MS 3172	BH 100	TE 1/8 BSP 01
AH 24176	AOH 24176	360	380	271	TR 400X5	28,80	8.0 G1/8"	HM 3172	MS 3168-MS 3172	BH 100	TE 1/8 BSP 01
AH 3080	AOH 3080	380	400	183	TR 430X5	27,30	8.7 G1/8"	HM 3076	MS 3076-MS 3080	BH 100	TE 1/8 BSP 01
AH 3080 G	AOH 3080 G	380	400	183	TR 420X5	27,30	8.7 G1/8"	HM 3076	MS 3076-MS 3080	BH 100	TE 1/8 BSP 01
AH 3180	AOH 3180	380	400	240	TR 440X5	39,50	9.7 G1/8"	HM 3176	MS 3176	BH 100	TE 1/8 BSP 01
AH 3180 G	AOH 3180 G	380	400	240	TR 420X5	39,50	9.7 G1/8"	HM 3076	MS 3076-MS 3080	BH 100	TE 1/8 BSP 01
AH 3280	AOH 3280	380	400	302	TR 440X5	51,70	10.9 G1/8"	HM 3176	MS 3176	BH 100	TE 1/8 BSP 01
AH 3280 G	AOH 3280 G	380	400	302	TR 420X5	51,70	10.9 G1/8"	HM 3076	MS 3076-MS 3080	BH 100	TE 1/8 BSP 01
AH 3980	AOH 3980	380	400	130	TR 415X5	16,60	M8	HM 3076	MS 3076-MS 3080	BH 100	TE M8 01
AH 24080	AOH 24080	380	400	228	TR 420X5	27,10	7.5 G1/8"	HM 3176	MS 3176	BH 100	TE 1/8 BSP 01
AH 24180	AOH 24180	380	400	278	TR 420X5	34,40	8.0 G1/8"	HM 3176	MS 3176	BH 100	TE 1/8 BSP 01
AH 3084	AOH 3084	400	420	186	TR 450X5	29,00	8.7 G1/8"	HM 3080	MS 3076-MS 3080	BH 100	TE 1/8 BSP 01
AH 3084 G	AOH 3084 G	400	420	186	TR 440X5	29,00	8.7 G1/8"	HM 3080	MS 3076-MS 3080	BH 100	TE 1/8 BSP 01
AH 3184	AOH 3184	400	420	266	TR 460X5	46,50	10.2 G1/8"	HM 3180	MS 3180-MS 3184	BH 100	TE 1/8 BSP 01



**WITHDRAWAL SLEEVE
AH, AHX**



**HYDRAULIC WITHDRAWAL SLEEVE
AOH, AOHX**

TOOLS OF ASSEMBLY

**Hook
spanner**

HMV 64E
HMV 64E
HMV 64E
HMV 64E
HMV 64E

HMV 68E
HMV 68E
HMV 68E
HMV 68E
HMV 68E
HMV 68E
HMV 68E
HMV 68E

HMV 72E
HMV 72E
HMV 72E
HMV 72E
HMV 72E
HMV 72E
HMV 72E
HMV 72E

HMV 76E
HMV 76E
HMV 76E
HMV 76E
HMV 76E
HMV 76E
HMV 76E
HMV 76E

HMV 80E
HMV 80E
HMV 80E

TOOLS OF DISASSEMBLY

**Nut for
disassembly**

HM 74T
HM 3172
HMLL 71T
HM 72T
HM 72T

HML 77T
HM 3076
HM 80T
HM 3176
HM 80T
HM 3176
HMLL 75T
HM 76T
HM 76T

HML 82T
HM 3080
HM 84T
HM 3180
HM 84T
HM 3180
HMLL 79T
HM 80T
HM 80T

HML 86T
HM 3084
HM 88T
HM 3184
HM 88T
HM 3184
HMLL 83T
HM 84T
HM 84T

HML 90T
HM 3088
HM 92T

**Hook
spanner**

**Hydraulic
nut**

HMV 74E
HMV 72E
HMV 72E
HMV 72E

HMV 77E
HMV 76E
HMV 80E
HMV 76E
HMV 80E
HMV 76E
HMV 76E

HMV 82E
HMV 80E
HMV 84E
HMV 80E
HMV 84E
HMV 80E
HMV 80E
HMV 80E

HMV 86E
HMV 84E
HMV 88E
HMV 84E
HMV 88E
HMV 84E
HMV 84E
HMV 84E

HMV 90E
HMV 88E
HMV 92E

Bearings

22368K
22368K
23968K
24068K30
24168K30

23072K
23072K • C 3072K
23172K
23172K • C 3172K
22372K
22372K
23972K
24072K30
24172K30

23076K
23076K • C 3076K
23176K
23176K • C 3176K
22376K
22376K
23976K
24076K30
24176K30

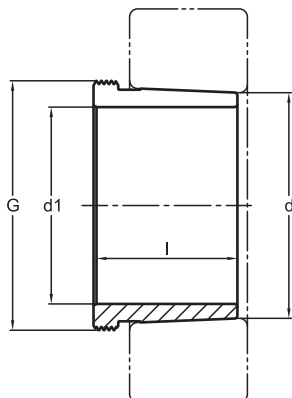
23080K
23080K • C 3080K
23180K
23180K • C 3180K
22380K
22380K
23980K
24080K30
24180K30

23084K
23084K • C 3084K
23184K

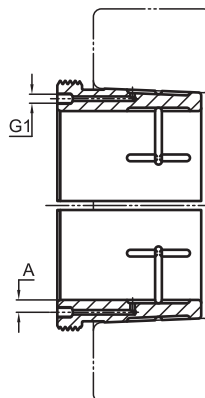
WITHDRAWAL SLEEVE AH, AHX, AOH, AOHX

Code	Code (Hydraulics)	d1 (mm)	d (mm)	l (mm)	G*	Weight (Kg)	Hydraulic (A)	NUT+LOCKING DEVICE				Extension tube
								Nut for assembly	Locking device	Hydraulic pump		
AH 3184 G	AOH 3184 G	400	420	266	TR 440X5	46,50	10.2	G1/8"	HM 3080	MS 3076-MS 3080	BH 100	TE 1/8 BSP 01
AH 3284	AOH 3284	400	420	321	TR 460X5	58,90		G1/8"	HM 3180	MS 3180-MS 3184	BH 100	TE 1/8 BSP 01
AH 3284 G	AOH 3284 G	400	420	321	TR 440X5	58,90		G1/8"	HM 3080	MS 3076-MS 3080	BH 100	TE 1/8 BSP 01
AH 3984	AOH 3984	400	420	130	TR 435X5	17,50		M8	HM 3080	MS 3076-MS 3080	BH 100	TE M8 01
AH 24084	AOH 24084	400	420	230	TR 440X5	27,40	7.5	G1/8"	HM 3180	MS 3180-MS 3184	BH 100	TE 1/8 BSP 01
AH 24184	AOH 24184	400	420	310	TR 440X5	40,30	8.2	G1/8"	HM 3180	MS 3180-MS 3184	BH 100	TE 1/8 BSP 01
AHX 3088	AOHX 3088	420	440	194	TR 470X5	32,00	8.7	G1/8"	HM 3084	MS 3084	BH 100	TE 1/8 BSP 01
AHX 3088 G	AOHX 3088 G	420	440	194	TR 460X5	32,00	8.7	G1/8"	HM 3084	MS 3084	BH 100	TE 1/8 BSP 01
AHX 3188	AOHX 3188	420	440	270	TR 480X5	49,80	10.2	G1/8"	HM 3184	MS 3180-MS 3184	BH 100	TE 1/8 BSP 01
AHX 3188 G	AOHX 3188 G	420	440	270	TR 460X5	49,80	10.2	G1/8"	HM 3084	MS 3084	BH 100	TE 1/8 BSP 01
AHX 3288	AOHX 3288	420	440	330	TR 480X5	63,80		G1/8"	HM 3184	MS 3180-MS 3184	BH 100	TE 1/8 BSP 01
AHX 3288 G	AOHX 3288 G	420	440	330	TR 460X5	64,50		G1/8"	HM 3084	MS 3080-MS 3184	BH 100	TE 1/8 BSP 01
AH 3988	AOH 3988	420	440	145	TR 460X5	21,50		G1/8"	HM 3084	MS 3084	BH 100	TE 1/8 BSP 01
AH 24088	AOH 24088	420	440	242	TR 460X5	31,90	7.7	G1/8"	HM 3184	MS 3180-MS 3184	BH 100	TE 1/8 BSP 01
AH 24188	AOH 24188	420	440	310	TR 460X5	42,30	8.2	G1/8"	HM 3184	MS 3180-MS 3184	BH 100	TE 1/8 BSP 01
AHX 3092	AOHX 3092	440	460	202	TR 490X5	35,20	9.0	G1/8"	HM 3088	MS 3088-MS 3092	BH 100	TE 1/8 BSP 01
AHX 3092 G	AOHX 3092 G	440	460	202	TR 480X5	35,20	9.0	G1/8"	HM 3088	MS 3088-MS 3092	BH 100	TE 1/8 BSP 01
AHX 3192	AOHX 3192	440	460	285	TR 510X6	57,90	10.5	G1/8"	HM 3188	MS 3188-MS 3192	BH 100	TE 1/8 BSP 01
AHX 3192 G	AOHX 3192 G	440	460	285	TR 480X5	57,90	10.5	G1/8"	HM 3088	MS 3088-MS 3092	BH 100	TE 1/8 BSP 01
AHX 3292	AOHX 3292	440	460	349	TR 510X6	74,50		G1/8"	HM 3188	MS 3188-MS 3192	BH 100	TE 1/8 BSP 01
AHX 3292 G	AOHX 3292 G	440	460	349	TR 480X5	80,00		G1/8"	HM 3088	MS 3088-MS 3092	BH 100	TE 1/8 BSP 01
AH 3992	AOH 3992	440	460	145	TR 480X5	22,50		G1/8"	HM 3088	MS 3088-MS 3092	BH 100	TE 1/8 BSP 01
AH 24092	AOH 24092	440	460	250	TR 480X5	34,70	7.7	G1/8"	HM 3188	MS 3188-MS 3192	BH 100	TE 1/8 BSP 01
AH 24192	AOH 24192	440	460	332	TR 480X5	47,40	8.45	G1/8"	HM 3188	MS 3188-MS 3192	BH 100	TE 1/8 BSP 01
AHX 3096	AOHX 3096	460	480	205	TR 520X6	39,20	9.0	G1/8"	HM 3092	MS 3088-MS 3092	BH 100	TE 1/8 BSP 01
AHX 3096 G	AOHX 3096 G	460	480	205	TR 500X5	39,20	9.0	G1/8"	HM 3092	MS 3088-MS 3092	BH 100	TE 1/8 BSP 01
AHX 3196	AOHX 3196	460	480	295	TR 530X6	63,10	10.5	G1/8"	HM 3192	MS 3188-MS 3192	BH 100	TE 1/8 BSP 01
AHX 3196 G	AOHX 3196 G	460	480	295	TR 500X5	63,10	10.5	G1/8"	HM 3092	MS 3088-MS 3092	BH 100	TE 1/8 BSP 01
AHX 3296	AOHX 3296	460	480	364	TR 530X6	82,10		G1/8"	HM 3192	MS 3188-MS 3192	BH 100	TE 1/8 BSP 01
AHX 3296 G	AOHX 3296 G	460	480	364	TR 500X5	81,00		G1/8"	HM 3092	MS 3088-MS 3092	BH 100	TE 1/8 BSP 01
AH 3996	AOH 3996	460	480	158	TR 500X5	26,00		G1/8"	HM 3092	MS 3088-MS 3092	BH 100	TE 1/8 BSP 01
AH 24096	AOH 24096	460	480	250	TR 500X5	36,60	7.7	G1/8"	HM 3192	MS 3188-MS 3192	BH 100	TE 1/8 BSP 01
AH 24196	AOH 24196	460	480	343	TR 500X5	52,70	8.5	G1/8"	HM 3192	MS 3188-MS 3192	BH 100	TE 1/8 BSP 01
AHX 30/500	AOHX 30/500	480	500	209	TR 540X6	42,50	9.0	G1/8"	HM 3096	MS 3096-30/500	BH 100	TE 1/8 BSP 01
AHX 30/500 G	AOHX 30/500 G	480	500	209	TR 530X6	42,50	9.0	G1/8"	HM 3096	MS 3096-30/500	BH 100	TE 1/8 BSP 01

* Example of thread code: TR 300X4: trapezoidal metric thread, 300: thread diameter, 4: thread pitch.



**WITHDRAWAL SLEEVE
AH, AHX**



**HYDRAULIC WITHDRAWAL SLEEVE
AOH, AOHX**

TOOLS OF ASSEMBLY

**Hook
spanner**

**Hydraulic
nut**

TOOLS OF DISASSEMBLY

**Nut for
disassembly**

**Hook
spanner**

**Hydraulic
nut**

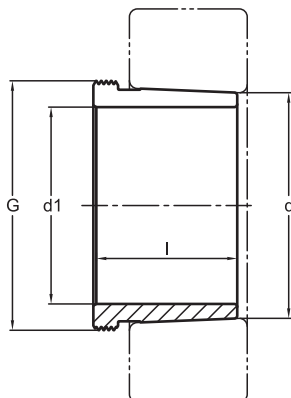
Bearings

HMV 80E	HM 3188	HMV 88E	23184K • C 3184K
HMV 80E	HM 92T	HMV 92E	22384K
HMV 80E	HM 3188	HMV 88E	22384K
HMV 80E	HMLL 87T		23984K
HMV 80E	HM 88T	HMV 88E	24084K30
HMV 80E	HM 88T	HMV 88E	24184K30
HMV 84E	HML 94T	HMV 94E	23088K
HMV 84E	HM 3092	HMV 92E	23088K • C 3088K
HMV 84E	HM 96T	HMV 96E	23188K
HMV 84E	HM 3192	HMV 92E	23188K • C 3188K
HMV 84E	HM 96T	HMV 96E	22388K
HMV 84E	HM 3192	HMV 92E	22388K
HMV 84E	HMLL 92T	HMV 92E	23988K
HMV 84E	HM 92T	HMV 92E	24088K30
HMV 84E	HM 92T	HMV 92E	24188K30
HMV 88E	HML 98T	HMV 98E	23092K
HMV 88E	HM 3096	HMV 96E	23092K • C 3092K
HMV 88E	HM 102T	HMV 102E	23192K
HMV 88E	HM 3196	HMV 96E	23192K • C 3192K
HMV 88E	HM 102T	HMV 102E	22392K
HMV 88E	HM 3196	HMV 96E	22392K
HMV 88E	HMLL 96T	HMV 96E	23992K
HMV 88E	HM 96T	HMV 96E	24092K30
HMV 88E	HM 96T	HMV 96E	24192K30 • C 4192K30
HMV 92E	HML 104T	HMV 104E	23096K
HMV 92E	HM 30/500	HMV 100E	23096K • C 3096K
HMV 92E	HM 106T	HMV 106E	23196K
HMV 92E	HM 31/500	HMV 100E	23196K • C 3196K
HMV 92E	HM 106T	HMV 106E	22396K
HMV 92E	HM 31/500	HMV 100E	22396K
HMV 92E	HMLL 100T	HMV 100E	23996K
HMV 92E	HMLL 100T	HMV 100E	24096K30
HMV 92E	HMLL 100T	HMV 100E	24196K30
HMV 96E	HML 108T	HMV 108E	230/500K
HMV 96E	HM 30/530	HMV 106E	230/500K • C 30/500K00K • C 31/500K

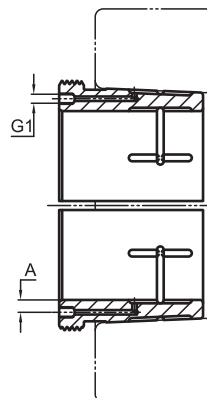
WITHDRAWAL SLEEVE AH, AHX, AOH, AOHX

Withdrawal Sleeve

Code	Code (Hydraulics)	d1 (mm)	d (mm)	l (mm)	G*	Weight (Kg)	NUT+LOCKING DEVICE					
							Hydraulic (A)	G1)	Nut for assembly	Locking device	Hydraulic pump	Extension tube
AHX 31/500	AOHX 31/500	480	500	313	TR 550X6	70,90	11.0	G1/8"	HM 3196	MS 3196	BH 100	TE 1/8 BSP 01
AHX 31/500 G	AOHX 31/500 G	480	500	313	TR 530X6	70,90	11.0	G1/8"	HM 3096	MS 3096-30/500	BH 100	TE 1/8 BSP 01
AHX 32/500	AOHX 32/500	480	500	393	TR 550X6	94,60		G1/8"	HM 3196	MS 3196	BH 100	TE 1/8 BSP 01
AHX 32/500 G	AOHX 32/500 G	480	500	393	TR 530X6	89,50		G1/8"	HM 3096	MS 3096	BH 100	TE 1/8 BSP 01
AH 39/500	AOH 39/500	480	500	162	TR 520X6	28,00		G1/8"	HM 3096	MS 3096-30/500	BH 100	TE 1/8 BSP 01
AH 240/500	AOH 240/500	480	500	253	TR 520X6	43,90	7.7	G1/8"	HM 3196	MS 3196	BH 100	TE 1/8 BSP 01
AH 241/500	AOH 241/500	480	500	362	TR 530X6	59,10	8.7	G1/8"	HM 3196	MS 3196	BH 100	TE 1/8 BSP 01
AH 30/530	AOH 30/530	500	530	230	TR 560X6	61,90		G1/4"	HM 30/500	MS 3096-30/500	BH 100	TE 1/4 BSP 01
AH 31/530	AOH 31/530	500	530	325	TR 560X6	93,40		G1/4"	HM 31/500	MS 31/500	BH 100	TE 1/4 BSP 01
AH 32/530	AOH 32/530	500	530	412	TR 580X6	133,0		G1/4"	HM 31/500	MS 31/500	BH 100	TE 1/4 BSP 01
AH 32/530 G	AOH 32/530 G	500	530	412	TR 560X6	133,0		G1/4"	HM 30/500	MS 3096-30/500	BH 100	TE 1/4 BSP 01
AH 39/530	AOH 39/530	500	530	175	TR 550X6	43,40		G1/4"	HM 30/500	MS 3096-30/500	BH 100	TE 1/4 BSP 01
AH 240/530	AOH 240/530	500	530	290	TR 550X6	66,90	11.5	G1/4"	HM 31/500	MS 31/500	BH 100	TE 1/4 BSP 01
AH 240/530 G	AOH 240/530 G	500	530	290	TR 560X6	66,90	11.5	G1/4"	HM 30/500	MS 3096-30/500	BH 100	TE 1/4 BSP 01
AH 241/530	AOH 241/530	500	530	375	TR 550X6	88,40		G1/4"	HM 31/500	MS 31/500	BH 100	TE 1/4 BSP 01
AH 241/530 G	AOH 241/530 G	500	530	375	TR 560X6	88,40		G1/4"	HM 30/500	MS 3096-30/500	BH 100	TE 1/4 BSP 01
AH 30/560	AOH 30/560	530	560	240	TR 590X6	68,60		G1/4"	HM 30/530	MS 30/530-600	BH 160	TE 1/4 BSP 01
AH 31/560	AOH 31/560	530	560	335	TR 590X6	102,0		G1/4"	HM 31/530	MS 31/530	BH 160	TE 1/4 BSP 01
AH 32/560	AOH 32/560	530	560	422	TR 610X6	145,0		G1/4"	HM 31/530	MS 31/530	BH 160	TE 1/4 BSP 01
AH 39/560	AOH 39/560	530	560	180	TR 580X6	47,40	11.3	G1/4"	HM 30/530	MS 30/530-600	BH 160	TE 1/4 BSP 01
AH 240/560	AOH 240/560	530	560	298	TR 580X6	73,00	12.32	G1/4"	HM 31/530	MS 31/530	BH 160	TE 1/4 BSP 01
AH 240/560 G	AOH 240/560 G	530	560	298	TR 600X6	73,00	12.32	G1/4"	HM 30/530	MS 30/530-600	BH 160	TE 1/4 BSP 01
AH 241/560	AOH 241/560	530	560	400	TR 580X6	100,0		G1/4"	HM 31/530	MS 31/530	BH 160	TE 1/4 BSP 01
AH 241/560 G	AOH 241/560 G	530	560	400	TR 600X6	100,0		G1/4"	HM 30/530	MS 30/530-600	BH 160	TE 1/4 BSP 01
AH 30/600	AOH 30/600	560	600	245	TR 630X6	75,40		G1/4"	HM 30/560	MS 30/560	BH 160	TE 1/4 BSP 01
AHX 30/600	AOHX 30/600	570	600	245	TR 630X6	75,40		G1/4"	HM 30/570	MS 30/570	BH 160	TE 1/4 BSP 01
AH 31/600	AOH 31/600	560	600	355	TR 630X6	118,0		G1/4"	HM 31/560	MS 31/560-600	BH 160	TE 1/4 BSP 01
AH 32/600	AOH 32/600	560	600	445	TR 650X6	167,0	14.0	G1/4"	HM 31/560	MS 31/560-600	BH 160	TE 1/4 BSP 01
AH 32/600 G	AOH 32/600 G	560	600	445	TR 630X6	167,0		G1/4"	HM 30/560	MS 30/560	BH 160	TE 1/4 BSP 01
AH 39/600	AOH 39/600	560	600	192	TR 625X6	56,10		G1/4"	HM 30/560	MS 30/560	BH 160	TE 1/4 BSP 01
AH 240/600	AOH 240/600	560	600	317	TR 625X6	86,0		G1/4"	HM 31/560	MS 31/560-600	BH 160	TE 1/4 BSP 01
AH 241/600	AOH 241/600	560	600	425	TR 625X6	118,0		G1/4"	HM 31/560	MS 31/560-600	BH 160	TE 1/4 BSP 01
AH 30/630	AOH 30/630	600	630	258	TR 670X6	87,80		G1/4"	HM 30/600	MS 30/530-600	BH 160	TE 1/4 BSP 01
AH 31/630	AOH 31/630	600	630	375	TR 670X6	138,0		G1/4"	HM 31/600	MS 31/560-600	BH 160	TE 1/4 BSP 01
AH 32/630	AOH 32/630	600	630	475	TR 680X6	191,0	12.6	G1/4"	HM 31/600	MS 31/560-600	BH 160	TE 1/4 BSP 01
AH 32/630 G	AOH 32/630 G	600	630	475	TR 670X6	191,0		G1/4"	HM 30/600	MS 30/530-600	BH 160	TE 1/4 BSP 01



**WITHDRAWAL SLEEVE
AH, AHX**



**HYDRAULIC WITHDRAWAL SLEEVE
AOH, AOHX**

TOOLS OF ASSEMBLY

**Hook
spanner**

**Hydraulic
nut**

TOOLS OF DISASSEMBLY

**Nut for
disassembly**

**Hook
spanner**

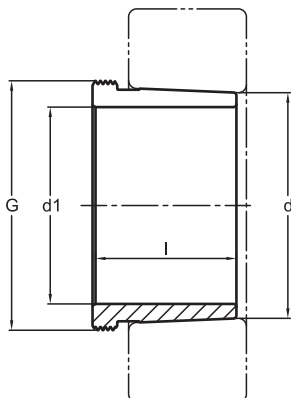
**Hydraulic
nut**

Bearings

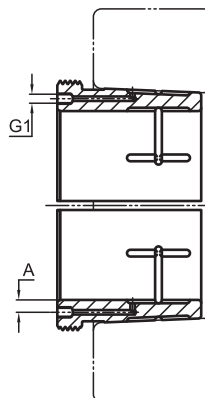
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	HMV 96E	HM 31/530		HMV 106E	223/500K
	HMV 96E	HMLL 104T		HMV 104E	239/500K
	HMV 96E	HMLL 104T		HMV 104E	240/500K30
	HMV 96E	HM 106T		HMV 106E	241/500K30 • C 41/500K30
	HMV 100E	HML 112T		HMV 112E	230/530K • C 30/530K
	HMV 100E	HML 112T		HMV 112E	222/530K • 231/530K • C 31/530K
	HMV 100E	HM 116T		HMV 116E	223/530K • 232/530K
	HMV 100E	HM 31/560		HMV 112E	223/530K • 232/530K
	HMV 100E	HMLL 110T		HMV 110E	239/530K
	HMV 100E	HMLL 110T		HMV 110E	240/530K30
	HMV 100E	HM 31/560		HMV 112E	240/530K30
	HMV 100E	HMLL 110T		HMV 110E	241/530K30
	HMV 100E	HM 31/560		HMV 112E	241/530K30
	HMV 106E	HM L 118T			230/560K • C 30/560K
	HMV 106E	HML 118T			222/560K • 231/560K • C 31/560K
	HMV 106E	HM 122T			223/560K • 232/560K
	HMV 106E	HMLL 116T		HMV 116E	239/560K
	HMV 106E	HMLL 116T		HMV 116E	240/560K30
	HMV 106E	HM 31/600		HMV 120E	240/560K30
	HMV 106E	HMLL 116T		HMV 116E	241/560K30
	HMV 106E	HM 31/600		HMV 120E	241/560K30
	HMV 112E	HML 126T		HMV 126E	230/600K • C 30/600K
	HMV 114E	HML 126T		HMV 126E	230/600K • C 30/600K
	HMV 112E	HML 126T		HMV 126E	222/600K • 231/600K • C 31/600K
	HMV 112E	HM 130T		HMV 130E	223/600K • 232/600K
	HMV 112E	HM 31/630		HMV 126E	223/600K 232/600K
	HMV 112E	HMLL 125T			239/600K
	HMV 112E	HMLL 125T			240/600K30
	HMV 112E	HMLL 125T			241/600K30
	HMV 120E	HML 134T		HMV 134E	230/630K • C 30/630K
	HMV 120E	HML 134T		HMV 134E	222/630K • 231/630K • C 31/630K
	HMV 120E	HM 136T			223/630K • 232/630K
	HMV 120E	HM 31/670		HMV 134E	223/630K • 232/630K

WITHDRAWAL SLEEVE AH, AHX, AOH, AOHX

								NUT+LOCKING DEVICE					
Code	Code (Hydraulics)	d1 (mm)	d (mm)	l (mm)	G*	Weight (Kg)	Hydraulic (A)	Nut for assembly	Locking device	Hydraulic pump	Extension tube		
AH 39/630	AOH 39/630	600	630	210	TR 655X6	62,8	G1/4"	HM 30/600	MS 30/530-600	BH 160	TE 1/4 BSP 01		
AH 240/630	AOH 240/630	600	630	335	TR 655X6	95,5	G1/4"	HM 31/600	MS 31/560-600	BH 160	TE 1/4 BSP 01		
AH 240/630 G	AOH 240/630 G	600	630	335	TR 670X6	95,5	G1/4"	HM 30/600	MS 30/530-600	BH 160	TE 1/4 BSP 01		
AH 241/630	AOH 241/630	600	630	450	TR 655X6	135,0	G1/4"	HM 31/600	MS 31/560-600	BH 160	TE 1/4 BSP 01		
AH 241/630 G	AOH 241/630 G	600	630	450	TR 670X6	135,0	G1/4"	HM 30/600	MS 30/530-600	BH 160	TE 1/4 BSP 01		
AH 30/670	AOH 30/670	630	670	280	TR 710X7	124,0	G1/4"	HM 30/630	MS 30/630	BH 160	TE 1/4 BSP 01		
AH 31/670	AOH 31/670	630	670	395	TR 710X7	187,0	G1/4"	HM 31/630	MS 31/630	BH 160	TE 1/4 BSP 01		
AH 32/670	AOH 32/670	630	670	500	TR 720X7	256,0	G1/4"	HM 31/630	MS 31/630	BH 160	TE 1/4 BSP 01		
AH 32/670 G	AOH 32/670 G	630	670	500	TR 710X7	256,0	G1/4"	HM 30/630	MS 30/630	BH 160	TE 1/4 BSP 01		
AH 39/670	AOH 39/670	630	670	216	TR 695X6	85,5	G1/4"	HM 30/630	MS 30/630	BH 160	TE 1/4 BSP 01		
AH 240/670	AOH 240/670	630	670	358	TR 695X6	136,0	G1/4"	HM 31/630	MS 31/630	BH 160	TE 1/4 BSP 01		
AH 240/670 G	AOH 240/670 G	630	670	358	TR 710X7	136,0	G1/4"	HM 30/630	MS 30/630	BH 160	TE 1/4 BSP 01		
AH 241/670	AOH 241/670	630	670	467	TR 695X6	183,0	G1/4"	HM 31/630	MS 31/630	BH 160	TE 1/4 BSP 01		
AH 30/710	AOH 30/710	670	710	286	TR 750X7	135,0	G1/4"	HM 30/670	MS 30/670	BH 160	TE 1/4 BSP 01		
AH 31/710	AOH 31/710	670	710	405	TR 750X7	205,0	G1/4"	HM 31/670	MS 31/670	BH 160	TE 1/4 BSP 01		
AH 32/710	AOH 32/710	670	710	515	TR 760X7	282,0	G1/4"	HM 31/670	MS 31/670	BH 160	TE 1/4 BSP 01		
AH 32/710 G	AOH 32/710 G	670	710	515	TR 750X7	282,0	G1/4"	HM 30/670	MS 30/670	BH 160	TE 1/4 BSP 01		
AH 39/710	AOH 39/710	670	710	228	TR 740X7	102,0	G1/4"	HM 30/670	MS 30/670	BH 160	TE 1/4 BSP 01		
AH 240/710	AOH 240/710	670	710	365	TR 740X7	150,0	G1/4"	HM 31/670	MS 31/670	BH 160	TE 1/4 BSP 01		
AH 240/710 G	AOH 240/710 G	670	710	365	TR 750X7	150,0	G1/4"	HM 30/670	MS 30/670	BH 160	TE 1/4 BSP 01		
AH 241/710	AOH 241/710	670	710	493	TR 740X7	209,0	G1/4"	HM 31/670	MS 31/670	BH 160	TE 1/4 BSP 01		
AH 30/750	AOH 30/750	710	750	300	TR 800X7	181,0	G1/4"	HM 30/710	MS 30/710	BH 160	TE 1/4 BSP 01		
AH 31/750	AOH 31/750	710	750	425	TR 800X7	236,0	15.6	G1/4"	HM 31/710	MS 31/710	BH 160	TE 1/4 BSP 01	
AH 32/750	AOH 32/750	710	750	540	TR 800X7	362,0	G1/4"	HM 31/710	MS 31/710	BH 160	TE 1/4 BSP 01		
AH 39/750	AOH 39/750	710	750	234	TR 780X7	111,0	G1/4"	HM 30/710	MS 30/710	BH 160	TE 1/4 BSP 01		
AH 240/750	AOH 240/750	710	750	380	TR 780X7	170,0	G1/4"	HM 31/710	MS 31/710	BH 160	TE 1/4 BSP 01		
AH 240/750 G	AOH 240/750 G	710	750	380	TR 800X7	170,0	G1/4"	HM 30/710	MS 30/710	BH 160	TE 1/4 BSP 01		
AH 241/750	AOH 241/750	710	750	520	TR 780X7	240,0	G1/4"	HM 31/710	MS 31/710	BH 160	TE 1/4 BSP 01		
AH 241/750 G	AOH 241/750 G	710	750	520	TR 800X7	240,0	G1/4"	HM 30/710	MS 30/710	BH 160	TE 1/4 BSP 01		
AH 30/800	AOH 30/800	750	800	308	TR 850X7	200,0	G1/4"	HM 30/750	MS 30/750-800	BH 160	TE 1/4 BSP 01		
AH 31/800	AOH 31/800	750	800	438	TR 850X7	304,0	G1/4"	HM 31/750	MS 31/750-800	BH 160	TE 1/4 BSP 01		
AH 32/800	AOH 32/800	750	800	550	TR 850X7	403,0	G1/4"	HM 31/750	MS 31/750-800	BH 160	TE 1/4 BSP 01		
AH 32/800 G	AOH 32/800 G	750	800	550	TR 850X7	403,0	G1/4"	HM 30/750	MS 30/750-800	BH 160	TE 1/4 BSP 01		
AH 39/800	AOH 39/800	750	800	245	TR 830X7	147,0	G1/4"	HM 30/750	MS 30/750-800	BH 160	TE 1/4 BSP 01		
AH 240/800	AOH 240/800	750	800	395	TR 830X7	234,0	G1/4"	HM 31/750	MS 31/750-800	BH 160	TE 1/4 BSP 01		



**WITHDRAWAL SLEEVE
AH, AHX**



**HYDRAULIC WITHDRAWAL SLEEVE
AOH, AOHX**

TOOLS OF ASSEMBLY

**Hook
spanner**

**Hydraulic
nut**

TOOLS OF DISASSEMBLY

**Nut for
disassembly**

**Hook
spanner**

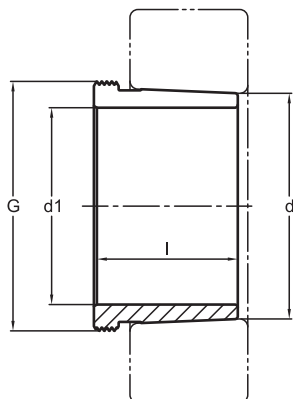
**Hydraulic
nut**

Bearings

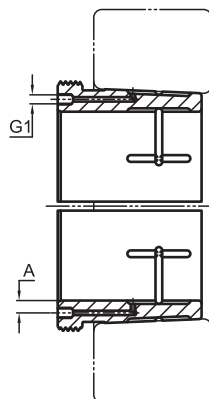
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	HMV 120E	HM 31/670		HMV 134E	241/630K30
	HMV 126E	HML 142T		HMV 142E	230/670K • C 30/670K
	HMV 126E	HML 142T		HMV 142E	222/670K • 231/670K • C 31/670K
	HMV 126E	HM 144T			223/670K • 232/670K
	HMV 126E	HM 31/710		HMV 142E	223/670K • 232/670K
	HMV 126E	HMLL 139T			239/670K
	HMV 126E	HMLL 139T			240/670K30
	HMV 126E	HM 31/710		HMV 142E	240/670K30
	HMV 126E	HMLL 139T			241/670K30
	HMV 134E	HML 150T		HMV 150E	230/710K • C 30/710K
	HMV 134E	HML 150T		HMV 150E	222/710K • 231/710K • C 31/710K
	HMV 134E	HM 152T			223/710K • 232/710K
	HMV 134E	HM 31/750		HMV 150E	223/710K • 232/710K
	HMV 134E	HMLL 148T			239/710K
	HMV 134E	HMLL 148T			240/710K30
	HMV 134E	HM 31/750		HMV 150E	240/710K30 • C 40/710K30
	HMV 134E	HMLL 148T			241/710K30
	HMV 142E	HML 160T		HMV 160E	230/750K • C 30/750K
	HMV 142E	HML 160T		HMV 160E	222/750K • 231/750K • C 31/750K
	HMV 142E	HM 160T		HMV 160E	223/750K • 232/750K
	HMV 142E	HMLL 156T			239/750K
	HMV 142E	HMLL 156T			240/750K30
	HMV 142E	HM 31/800		HMV 160E	240/750K30
	HMV 142E	HMLL 156T			241/750K30
	HMV 142E	HM 31/800		HMV 160E	241/750K30
	HMV 150E	HML 170T		HMV 170E	230/800K • C 30/800K
	HMV 150E	HML 170T		HMV 170E	222/800K • 231/800K • C 31/800K
	HMV 150E	HM 170T		HMV 170E	232/800K
	HMV 150E	HM 31/850		HMV 170E	232/800K
	HMV 150E	HMLL 166T			239/800K
	HMV 150E	HMLL 166T			240/800K30

WITHDRAWAL SLEEVE AH, AHX, AOH, AOHX

								NUT+LOCKING DEVICE			
Code	Code (Hydraulics)	d1 (mm)	d (mm)	l (mm)	G*	Weight (Kg)	Hydraulic (A)	Nut for assembly	Locking device	Hydraulic pump	Extension tube
AH 240/800 G	AOH 240/800 G	750	800	395	TR 850X7	234,0	G1/4"	HM 30/750	MS 30/750-800	BH 160	TE 1/4 BSP 01
AH 241/800	AOH 241/800	750	800	525	TR 830X7	306,0	G1/4"	HM 31/750	MS 31/750-800	BH 160	TE 1/4 BSP 01
AH 241/800 G	AOH 241/800 G	750	800	530	TR 850X7	306,0	G1/4"	HM 30/750	MS 30/750-800	BH 160	TE 1/4 BSP 01
AH 30/850	AOH 30/850	800	850	325	TR 900X7	226,0	G1/4"	HM 30/800	MS 30/750-800	BH 160	TE 1/4 BSP 01
AH 31/850	AOH 31/850	800	850	462	TR 900X7	342,0	G1/4"	HM 31/800	MS 31/750-800	BH 160	TE 1/4 BSP 01
AH 32/850	AOH 32/850	800	850	585	TR 900X7	458,0	G1/4"	HM 31/800	MS 31/750-800	BH 160	TE 1/4 BSP 01
AH 39/850	AOH 39/850	800	850	258	TR 880X7	166,0	G1/4"	HM 30/800	MS 30/750-800	BH 160	TE 1/4 BSP 01
AH 240/850	AOH 240/850	800	850	415	TR 880X7	252,0	G1/4"	HM 31/800	MS 31/750-800	BH 160	TE 1/4 BSP 01
AH 240/850 G	AOH 240/850 G	800	850	418	TR 900X7	252,0	G1/4"	HM 30/800	MS 30/750-800	BH 160	TE 1/4 BSP 01
AH 241/850	AOH 241/850	800	850	560	TR 880X7	344,0	G1/4"	HM 31/800	MS 31/750-800	BH 160	TE 1/4 BSP 01
AH 30/900	AOH 30/900	850	900	335	TR 950X8	248,0	G1/4"	HM 30/850	MS 30/850-900	BH 160	TE 1/4 BSP 01
AH 31/900	AOH 31/900	850	900	475	TR 950X8	276,0	G1/4"	HM 31/850	MS 31/850	BH 160	TE 1/4 BSP 01
AH 32/900	AOH 32/900	850	900	585	TR 950X8	485,0	G1/4"	HM 31/850	MS 31/850	BH 160	TE 1/4 BSP 01
AH 39/900	AOH 39/900	850	900	265	TR 930X8	182,0	G1/4"	HM 30/850	MS 30/850-900	BH 160	TE 1/4 BSP 01
AH 240/900	AOH 240/900	850	900	430	TR 930X8	276,0	G1/4"	HM 31/850	MS 31/850	BH 160	TE 1/4 BSP 01
AH 241/900	AOH 241/900	850	900	575	TR 930X8	372,0	G1/4"	HM 31/850	MS 31/850	BH 160	TE 1/4 BSP 01
AH 30/950	AOH 30/950	900	950	355	TR 1000X8	279,0	G1/4"	HM 30/900	MS 30/850-900	BH 160	TE 1/4 BSP 01
AH 31/950	AOH 31/950	900	950	500	TR 1000X8	422,0	G1/4"	HM 31/900	MS 31/900	BH 160	TE 1/4 BSP 01
AH 32/950	AOH 32/950	900	950	600	TR 1000X8	527,0	G1/4"	HM 31/900	MS 31/900	BH 160	TE 1/4 BSP 01
AH 39/950	AOH 39/950	900	950	282	TR 980X8	206,0	G1/4"	HM 30/900	MS 30/850-900	BH 160	TE 1/4 BSP 01
AH 240/950	AOH 240/950	900	950	467	TR 980X8	318,0	G1/4"	HM 31/900	MS 31/900	BH 160	TE 1/4 BSP 01
AH 241/950	AOH 241/950	900	950	605	TR 980X8	423,0	G1/4"	HM 31/900	MS 31/900	BH 160	TE 1/4 BSP 01
AH 30/1000	AOH 30/1000	950	1000	365	TR 1060X8	312,0	G1/4"	HM 30/950	MS 30/950	BH 160	TE 1/4 BSP 01
AH 31/1000	AOH 31/1000	950	1000	525	TR 1060X8	482,0	G1/4"	HM 31/950	MS 31/950	BH 160	TE 1/4 BSP 01
AH 32/1000	AOH 32/1000	950	1000	630	TR 1060X8	603,0	G1/4"	HM 31/950	MS 31/950	BH 160	TE 1/4 BSP 01
AH 39/1000	AOH 39/1000	950	1000	296	TR 1035X8	232,0	G1/4"	HM 30/950	MS 30/950	BH 160	TE 1/4 BSP 01
AH 240/1000	AOH 240/1000	950	1000	469	TR 1035X8	353,0	G1/4"	HM 31/950	MS 31/950	BH 160	TE 1/4 BSP 01
AH 241/1000	AOH 241/1000	950	1000	645	TR 1035X8	482,0	G1/4"	HM 31/950	MS 31/950	BH 160	TE 1/4 BSP 01
AH 30/1060	AOH 30/1060	1000	1060	385	TR 1120X8	400,0	G1/4"	HM 30/1000	MS 30/1000	BH 160	TE 1/4 BSP 01
AH 31/1060	AOH 31/1060	1000	1060	540	TR 1120X8	595,0	G1/4"	HM 31/1000	MS 31/1000	BH 160	TE 1/4 BSP 01
AH 39/1060	AOH 39/1060	1000	1060	310	TR 1095X8	259,0	G1/4"	HM 30/1000	MS 30/1000	BH 160	TE 1/4 BSP 01
AH 240/1060	AOH 240/1060	1000	1060	498	TR 1095X8	440,0	G1/4"	HM 31/1000	MS 31/1000	BH 160	TE 1/4 BSP 01
AH 241/1060	AOH 241/1060	1000	1060	665	TR 1095X8	605,0	G1/4"	HM 31/1000	MS 31/1000	BH 160	TE 1/4 BSP 01



**WITHDRAWAL SLEEVE
AH, AHX**



**HYDRAULIC WITHDRAWAL SLEEVE
AOH, AOHX**

TOOLS OF ASSEMBLY

TOOLS OF DISASSEMBLY

**Hook
spanner**

**Hydraulic
nut**

**Nut for
disassembly**

**Hook
spanner**

**Hydraulic
nut**

Bearings

HMV 150E
HMV 150E
HMV 150E

HM 31/850
HMLL 166T
HM 31/850

HMV 170E
HMV 170E
HMV 170E

240/800K30
241/800K30
241/800K30

HMV 160E
HMV 160E
HMV 160E
HMV 160E
HMV 160E
HMV 160E
HMV 160E

HML 180T
HML 180T
HM 180T
HMLL 176T
HMLL 176T
HM 31/900
HMLL 176T

HMV 180E
HMV 180E
HMV 180E
HMV 180E
HMV 180E

230/850K • C 30/850K
222/850K • 231/850K • C 31/850K
232/850K
239/850K
240/850K30
240/850K30
241/850K30

HMV 170E
HMV 170E
HMV 170E
HMV 170E
HMV 170E
HMV 170E

HML 190T
HML 190T
HM 190T
HMLL 186T
HMLL 186T
HMLL 186T

HMV 190E
HMV 190E
HMV 190E
HMV 190E

230/900K • C 30/900K
222/900K • 231/900K
232/900K
239/900K
240/900K30
241/900K30

HMV 180E
HMV 180E
HMV 180E
HMV 180E
HMV 180E
HMV 180E

HM 200T
HM 200T
HM 200T
HMLL 196T
HMLL 196T
HMLL 196T

HMV 200E
HMV 200E
HMV 200E
HMV 200E

230/950K • C 30/950K
222/950K • 231/950K
232/950K
239/950K
240/950K30
241/950K30

HMV 190E
HMV 190E
HMV 190E
HMV 190E
HMV 190E
HMV 190E

HML 212T
HML 212T
HM 212T
HMLL 207T
HMLL 207T
HMLL 207T

HMV 212E
HMV 212E
HMV 212E
HMV 212E

230/1000K • C 30/1000K
222/1000K • 231/1000K • C 31/1000K
232/1000K
239/1000K
240/1000K30
241/1000K30

HMV 200E
HMV 200E
HMV 200E
HMV 200E
HMV 200E

HML 224T
HML 224T
HMLL 219T
HMLL 219T
HMLL 219T

HMV 224E
HMV 224E

230/1060K
222/1060K • 231/1060K
239/1060K
240/1060K30
241/1060K30

BGL[®]
BERTOLOTO & GROTTA

LOCKNUT KM, KML, HM, HML, HMT, HME

Besides to be an accessory of the sleeve, the locknut has its own applications as fixation of bearings, gears and pulleys. The nuts BGL have their dimensions totally controlled and maintained according to the international standards to enable a correct assembly with expected precision. When the locknuts are produced with nodular material, they have the advantage of making it possible the realization of the fixation process with less efforts, due to the presence of graphite in the material alloy. The clamping process of the looknut must be done with the lockwasher MB or locking device MS.

Material: Nodular BGL with better characteristics as indicated in the standard DIN 1563, class GJS 500-7 (old GGG 50).

Optional in carbon and stainless steel.

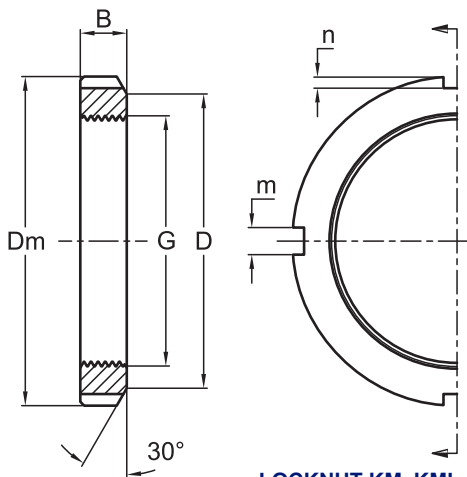


LOCKNUT

KM, KML, HM, HML, HMT

Nuts with thread in mm

Locknut							
	Code	G*	Dm (mm)	B (mm)	D (mm)	m (mm)	n (mm)
	KM 0	M 10X0,75	18	4	13.5	3	2
	KM 1	M 12X1	22	4	17	3	2
	KM 2	M 15X1	25	5	21	4	2
	KM 3	M 17X1	28	5	24	4	2
	KM 4	M 20X1	32	6	26	4	2
	KM 5	M 25X1,5	38	7	32	5	2
	KM 6	M 30X1,5	45	7	38	5	2
	KM 7	M 35X1,5	52	8	44	5	2
	KM 8	M 40X1,5	58	9	50	6	2.5
	KM 9	M 45X1,5	65	10	56	6	2.5
	KM 10	M 50X1,5	70	11	61	6	2.5
	KM 11	M 55X2	75	11	67	7	3
	KM 11X1.5	M 55X1,5	75	11	67	7	3
	KM 12	M 60X2	80	11	73	7	3
	KM 12X1.5	M 60X1,5	80	11	73	7	3
	KM 13	M 65X2	85	12	79	7	3
	KM 13X1.5	M 65X1,5	85	12	79	7	3
	KM 14	M 70X2	92	12	85	8	3.5
	KM 15	M 75X2	98	13	90	8	3.5
	KM 16	M 80X2	105	15	95	8	3.5
	KM 17	M 85X2	110	16	102	8	3.5
	KM 18	M 90X2	120	16	108	10	4
	KM 19	M 95X2	125	17	113	10	4
	KM 20	M 100X2	130	18	120	10	4
	KM 21	M 105X2	140	18	126	12	5
	KM 22	M 110X2	145	19	133	12	5
	KM 23	M 115X2	150	19	137	12	5
	KM 24	M 120X2	155	20	138	12	5
	KML 24	M 120X2	145	20	135	12	5
	KM 25	M 125X2	160	21	148	12	5
	KM 26	M 130X2	165	21	149	12	5
	KML 26	M 130X2	155	21	145	12	5
	KM 27	M 135X2	175	22	160	14	6
	KM 28	M 140X2	180	22	160	14	6
	KML 28	M 140X2	165	22	155	12	5
	KM 29	M 145X2	190	24	171	14	6
	KM 30	M 150X2	195	24	171	14	6
	KML 30	M 150X2	180	24	170	14	5
	KM 31	M 155X3	200	25	182	16	7



LOCKNUT KM, KML

Weight (kg)	Locking device	Hook spanner
0.004	MB 0	HN 1
0.006	MB 1	HN 1
0.010	MB 2	HN 2
0.013	MB 3	HN 3
0.019	MB 4	HN 4
0.028	MB 5	HN 5
0.038	MB 6	HN 6
0.058	MB 7	HN 7
0.077	MB 8	HN 8
0.108	MB 9	HN 9
0.130	MB 10	HN 10
0.146	MB 11	HN 11
0.143	MB 11	HN 11
0.158	MB 12	HN 12
0.158	MB 12	HN 12
0.187	MB 13	HN 13
0.186	MB 13	HN 13
0.219	MB 14	HN 14
0.263	MB 15	HN 15
0.357	MB 16	HN 16
0.409	MB 17	HN 17
0.517	MB 18	HN 18
0.577	MB 19	HN 19
0.650	MB 20	HN 20
0.786	MB 21	HN 21
0.873	MB 22	HN 22
0.916	MB 23	HN 23
0.967	MB 24	HN 24
0.685	MBL 24	HN 22
1.081	MB 25	HN 25
1.100	MB 26	HN 26
0.776	MBL 26	HN 24
1.399	MB 27	HN 27
1.413	MB 28	HN 28
0.875	MBL 28	HN 26
1.837	MB 29	HN 29
1.875	MB 30	HN 30
1.250	MBL 30	HN 28
2.069	MB 31	HN 31

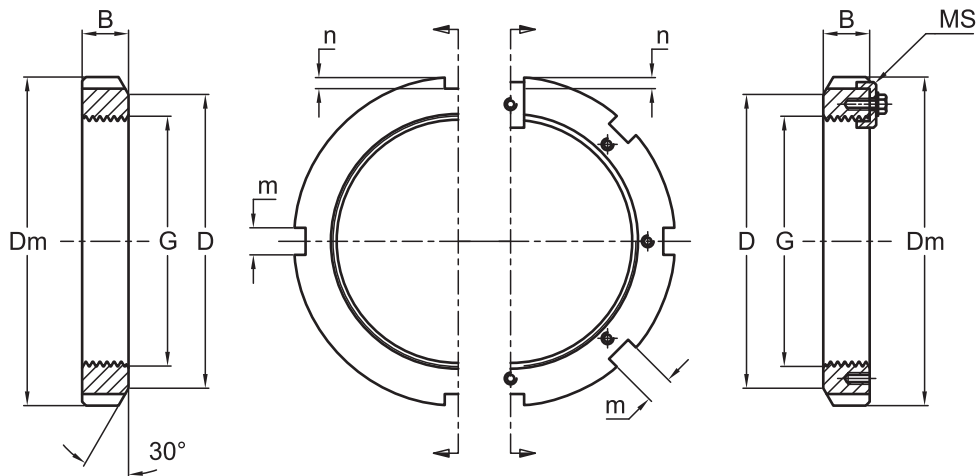
LOCKNUT

KM, KML, HM, HML, HMT

Nuts with thread in mm

Locknut

Code	G*	Dm (mm)	B (mm)	D (mm)	m (mm)	n (mm)
KM 32	M 160X3	210	25	182	16	7
KML 32	M 160X3	190	25	180	14	5
KM 33	M 165X3	210	26	193	16	7
KM 34	M 170X3	220	26	193	16	7
KML 34	M 170X3	200	26	190	16	5
HMLL 36	M 180X3	210	25	196	16	7
KM 36	M 180X3	230	27	203	18	8
KML 36	M 180X3	210	27	200	16	5
HMLL 38	M 190X3	225	25	211	16	7
KM 38	M 190X3	240	28	214	18	8
KML 38	M 190X3	220	28	210	16	5
HMLL 40	M 200X3	235	25	221	16	7
KM 40	M 200X3	250	29	226	18	8
KML 40	M 200X3	240	29	222	18	8
HML 41T	TR 205X4	260	30	232	18	8
HMLL 42T	TR 210X4	250	26	234	18	8
HM 42T	TR 210X4	270	30	238	20	10
HML 43T	TR 215X4	260	30	242	20	9
HM 3044	TR 220X4	260	30	242	20	9
HM 44T	TR 220X4	280	32	250	20	10
HM 3144	TR 220X4	280	32	250	20	10
HMLL 46T	TR 230X4	270	26	254	18	8
HM 46T	TR 230X4	290	34	260	20	10
HML 47T	TR 235X4	280	34	262	20	9
HM 48T	TR 240X4	300	34	270	20	10
HM 3048	TR 240X4	290	34	270	20	10
HM 3148	TR 240X4	300	34	270	20	10
HMLL 50T	TR 250X4	290	26	274	18	8
HM 50T	TR 250X4	320	36	290	20	10
HML 52T	TR 260X4	310	34	290	20	10
HM 3052	TR 260X4	310	36	290	20	10
HM 52T	TR 260X4	330	36	300	24	12
HM 3152	TR 260X4	330	36	300	24	12
HM 54T	TR 270X4	340	38	310	24	12
HMLL 55T	TR 275X4	320	27	304	18	8
HML 56T	TR 280X4	330	30	310	24	10
HM 56T	TR 280X4	350	38	320	24	12
HM 3056	TR 280X4	330	38	310	24	10
HM 3156	TR 280X4	350	38	320	24	12



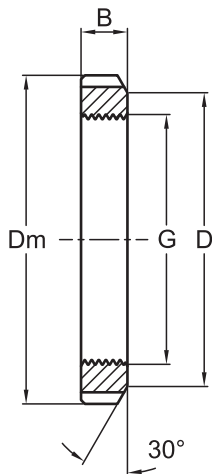
LOCKNUT KM, KML, HMLL, HM...T

LOCKNUT HM WITH MS

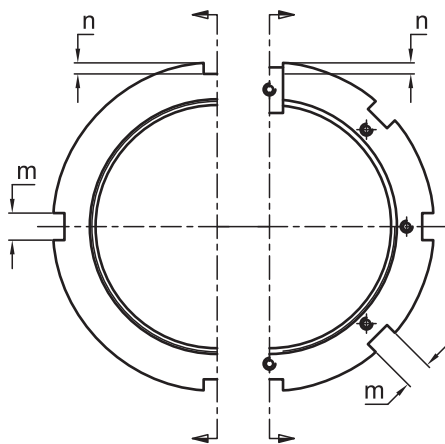
Weight (kg)	Locking device	Hook spanner
2.284	MB 32	HN 32
1.408	MBL 32	HN 29
2.293	MB 33	HN 33
2.544	MB 34	HN 34
1.554	MBL 34	HN 31
1.800		HN 32
2.766	MB 36	HN 36
1.682	MBL 36	HN 32
2.200		HN 34
3.028	MB 38	HN 38
1.848	MBL 38	HN 34
2.400		HN 38
3.350	MB 40	HN 40
2.654	MBL 40	HN 38
3.430		HN 40
2.900		HN 40
4.220		HN 40
3.720		HN 40
2.800	MS 3044	HN 44
4.840	MB 44	HN 44
4.580	MS 3144-MS 3148	HN 44
3.100		HN 40
5.400		
3.620		HN 44
5.600	MB 48	
4.410	MS 3048-MS 3052	
5.360	MS 3144-MS 3148	
3.400		
7.200		
5.150		
4.730	MS 3048-MS 3052	
7.330	MB 52	
7.200	MS 3152-MS 3156	
9.200		
4.400		
5.490		
8.600	MB 56	
5.800	MS 3056	
8.240	MS 3152-MS 3156	

LOCKNUT HM, HML, HMT Nuts with thread in mm

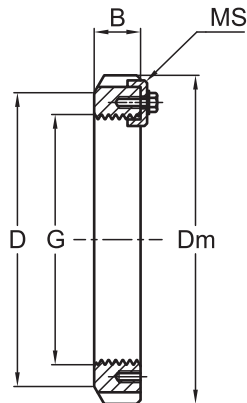
Locknut	Code		G*	Dm (mm)	B (mm)	D (mm)	m (mm)	n (mm)
	HM	58T	TR 290X4	370	40	330	24	12
	HMLL	59T	TR 295X4	340	27	320	20	10
	HML	60T	TR 300X4	360	31	336	24	12
	HM	60T	TR 300X4	370	36	340	24	12
	HM	3160	TR 300X4	380	40	340	24	12
	HM	3060	TR 300X4	360	42	336	24	12
	HM	62T	TR 310X5	390	42	350	24	12
	HMLL	63T	TR 315X5	370	28	350	20	10
	HML	64T	TR 320X5	380	42	356	24	12
	HM	64T	TR 320X5	400	40	370	24	12
	HM	3064	TR 320X5	380	42	356	24	12
	HM	3164	TR 320X5	400	42	360	24	12
	HM	66T	TR 330X5	420	52	380	28	15
	HMLL	67T	TR 335X5	390	28	370	20	10
	HM	68T	TR 340X5	420	42	390	28	15
	HM	3068	TR 340X5	400	45	376	24	12
	HM	3168	TR 340X5	440	55	400	28	15
	HML	69T	TR 345X5	410	45	384	28	13
	HM	70T	TR 350X5	450	55	410	28	15
	HMLL	71T	TR 355X5	410	28	386	24	12
	HML	72T	TR 360X5	420	35	394	28	13
	HM	72T	TR 360X5	440	45	410	28	15
	HM	3072	TR 360X5	420	45	394	28	13
	HM	3172	TR 360X5	460	58	420	28	15
	HML	73T	TR 365X5	430	48	404	28	13
	HM	74T	TR 370X5	450	45	420	28	15
	HMLL	75T	TR 375X5	430	28	406	24	12
	HML	76T	TR 380X5	445	37	417	28	14
	HM	76T	TR 380X5	470	45	430	32	18
	HM	3076	TR 380X5	450	48	422	28	14
	HM	3176	TR 380X5	490	60	440	32	18
	HML	77T	TR 385X5	450	48	422	28	14
	HMLL	79T	TR 395X5	460	30	436	24	12
	HM	80T	TR 400X5	500	46	460	32	18
	HM	3080	TR 400X5	470	52	442	28	14
	HM	3180	TR 400X5	520	62	460	32	18
	HML	82T	TR 410X5	480	52	452	32	14
	HMLL	83T	TR 415X5	480	30	456	24	12
	HM	84T	TR 420X5	520	49	480	32	18



LOCKNUT KM, KML, HML, HMT



LOCKNUT HM WITH MS



Weight (kg)	Locking device
10.54	
46.00	
7.25	
8.60	
10.60	MS 3160
47.30	MS 3060
11.80	
5.60	
7.97	
12.00	
8.84	MS 3064-MS 3068
11.82	MS 3164
13.80	
6.70	
13.20	
10.06	MS 3064-MS 3068
21.42	MS 3168-MS 3172
8.40	
23.20	
6.90	
10.20	
16.50	
12.00	MS 3072
24.00	MS 3168-MS 3172
9.40	
17.40	
7.30	
11.30	
20.20	
14.60	MS 3076-MS 3080
28.20	MS 3176
10.40	
9.90	
23.80	
16.00	MS 3076-MS 3080
33.60	MS 3180-MS 3184
12.80	
10.30	
24.00	

LOCKNUT

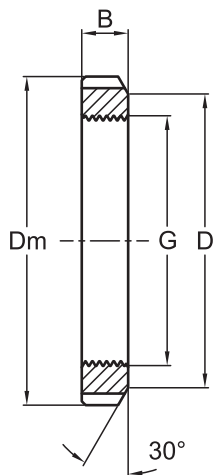
HM, HML, HMT

Nuts with thread in mm

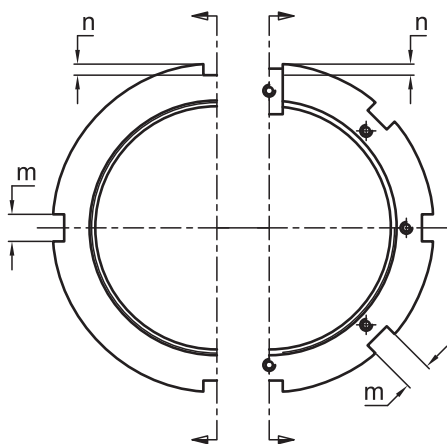
Locknut

Code	G*	Dm (mm)	B (mm)	D (mm)	m (mm)	n (mm)
HM 3084	TR 420X5	490	52	462	32	14
HM 3184	TR 420X5	540	70	490	32	18
HML 86T	TR 430X5	500	52	472	32	14
HMLL 87T	TR 435X5	500	30	474	28	13
HM 88T	TR 440X5	560	70	510	36	20
HM 3088	TR 440X5	520	60	490	32	15
HM 3188	TR 440X5	560	70	510	36	20
HML 90T	TR 450X5	520	60	490	32	15
HMLL 92T	TR 460X5	530	33	504	28	13
HM 92T	TR 460X5	550	53	510	36	20
HM 3092	TR 460X5	540	60	510	32	15
HM 3192	TR 460X5	580	75	540	36	20
HML 94T	TR 470X5	540	43	510	32	15
HMLL 96T	TR 480X5	550	33	522	32	14
HM 96T	TR 480X5	590	56	540	36	20
HM 3096	TR 480X5	560	60	530	36	15
HM 3196	TR 480X5	620	75	560	36	20
HML 98T	TR 490X5	580	60	550	36	15
HMLL 100T	TR 500X5	575	37	547	32	15
HM 30/500	TR 500X5	580	68	550	36	15
HM 31/500	TR 500X5	630	80	580	40	23
HM 102T	TR 510X6	620	58	570	40	23
HMLL 104T	TR 520X6	595	42	565	32	15
HML 104T	TR 520X6	600	68	570	36	15
HM 106T	TR 530X6	640	60	590	40	23
HM 30/530	TR 530X6	630	68	590	40	20
HM 31/530	TR 530X6	670	80	610	40	23
HML 108T	TR 540X6	620	49	590	40	20
HMLL 110T	TR 550X6	625	47	595	32	15
HM 110T	TR 550X6	700	85	640	40	23
HML 112T	TR 560X6	650	60	610	40	20
HM 30/560	TR 560X6	650	75	610	40	20
HM 31/560	TR 560X6	710	85	650	45	25
HMLL 116T	TR 580X6	660	47	630	32	15
HM 116T	TR 580X6	700	65	645	40	23
HML 118T	TR 590X6	690	63	650	40	20
HM 30/600	TR 600X6	700	75	660	40	20
HM 31/600	TR 600X6	750	85	690	45	25
HM 122T	TR 610X6	730	65	675	45	25

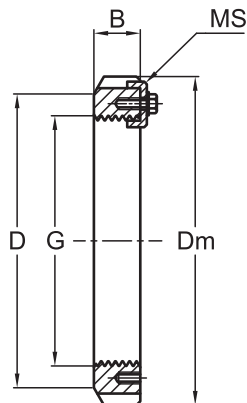
* Example of thread code: TR 300X4: trapezoidal metric thread, 300: thread diameter, 4: thread pitch.



LOCKNUT KM, KML, HML, HMT



LOCKNUT HM WITH MS

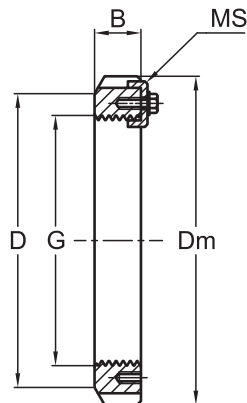
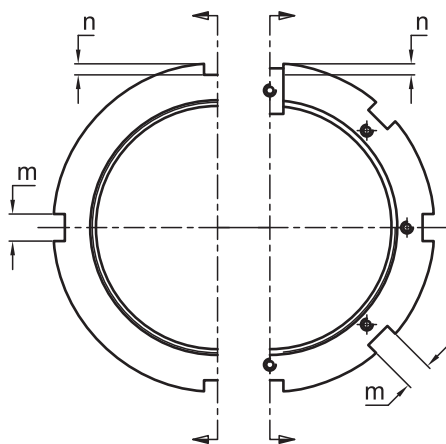
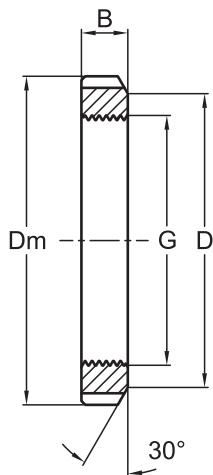


Weight (kg)	Locking device
16.80	MS 3084
40.40	MS 3180-MS 3184
15.80	
10.70	
48.50	
23.40	MS 3088-MS 3092
45.10	MS 3188-MS 3192
16.30	
13.50	
28.80	
24.80	MS 3088-MS 3092
47.60	MS 3188-MS 3192
15.80	
13.90	
33.80	
28.30	MS 3096-30/500
62.00	MS 3196
22.50	
17.60	
33.60	MS 3096-30/500
58.60	MS 31/500
41.20	
20.80	
25.30	
44.20	
39.80	MS 30/530-600
67.40	MS 31/530
27.00	
24.70	
79.50	
33.80	
41.20	MS 30/560
88.90	MS 31/560-600
30.00	
57.30	
47.70	
50.00	MS 30/530-600
94.90	MS 31/560-600
59.70	

LOCKNUT HM, HML, HMT Nuts with thread in mm

Locknut			Dm	B	D	m	n
	Code	G*	(mm)	(mm)	(mm)	(mm)	(mm)
	HMLL 125T	TR 625X6	710	48	675	36	15
	HML 126T	TR 630X6	730	65	690	45	20
	HM 30/630	TR 630X6	730	75	690	45	20
	HM 31/630	TR 630X6	800	95	730	50	28
	HM 130T	TR 650X6	780	67	720	45	25
	HMLL 131T	TR 655X6	745	52	715	36	15
	HM 31/670	TR 670X6	850	106	775	50	28
	HM 30/670	TR 670X6	780	80	740	45	20
	HML 134T	TR 670X6	770	70	730	45	20
	HM 136T	TR 680X6	820	72	750	50	28
	HMLL 139T	TR 695X6	795	53	755	40	20
	HM 31/710	TR 710X7	900	106	825	55	30
	HM 30/710	TR 710X7	830	90	780	50	25
	HML 142T	TR 710X7	830	70	780	50	25
	HM 144T	TR 720X7	870	72	800	50	28
	HMLL 148T	TR 740X7	840	55	800	40	20
	HM 31/750	TR 750X7	950	112	875	60	34
	HM 30/750	TR 750X7	870	90	820	55	25
	HML 150T	TR 750X7	870	70	820	55	25
	HM 152T	TR 760X7	910	75	830	55	30
	HMLL 156T	TR 780X7	880	56	840	40	20
	HML 160T	TR 800X7	920	70	865	55	25
	HM 160T	TR 800X7	950	75	870	60	34
	HM 31/800	TR 800X7	1000	112	925	60	34
	HM 30/800	TR 800X7	920	90	870	55	25
	HMLL 166T	TR 830X7	930	57	890	40	20
	HM 31/850	TR 850X7	1060	118	975	70	38
	HML 170T	TR 850X7	970	74	915	60	25
	HM 170T	TR 850X7	1010	79	930	60	34
	HM 30/850	TR 850X7	980	90	925	60	25
	HMLL 176T	TR 880X7	990	62	950	45	20
	HM 30/900	TR 900X7	1030	100	975	60	25
	HM 31/900	TR 900X7	1120	125	1030	70	38
	HML 180T	TR 900X7	1020	74	965	60	25
	HM 180T	TR 900X7	1060	82	980	70	38
	HMLL 186T	TR 930X8	1040	63	1000	45	20
	HM 30/950	TR 950X8	1080	100	1024	60	25
	HM 31/950	TR 950X8	1170	125	1080	70	38
	HML 190T	TR 950X8	1070	76	1015	60	25

* Example of thread code: TR 300X4: trapezoidal metric thread, 300: thread diameter, 4: thread pitch.



LOCKNUT KM, KML, HML, HMT

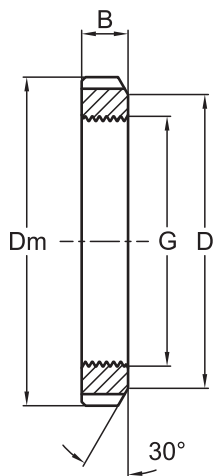
LOCKNUT HM WITH MS

Weight (kg)	Locking device
32.3	
52.2	
56.0	MS 30/630
127.0	MS 31/630
71.0	
39.5	
162.0	MS 31/670
59.8	MS 30/670
66.2	
84.8	
46.4	
180.0	MS 31/710
75.7	MS 30/710
90.7	
97.8	
51.5	
208.0	MS 31/750-800
79.6	MS 30/750-800
95.1	
104.0	
55.2	
221.0	MS 31/750-800
84.0	
109.0	
94.2	MS 30/750-800
59.7	
254.0	MS 31/850
94.0	
131.0	
118.0	MS 30/850-900
76.3	
139.0	MS 30/850-900
303.0	MS 31/900
99.3	
142.0	
82.2	
148.0	MS 30/950
321.0	MS 31/950
108.0	

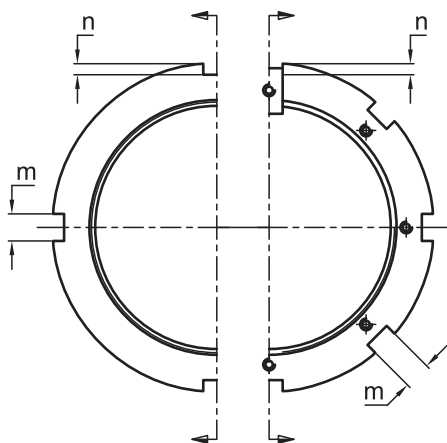
LOCKNUT HM, HML, HMT Nuts with thread in inch

Locknut

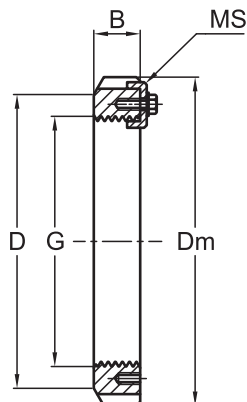
Code	G*	Dm (mm)	B (mm)	D (mm)	m (mm)	n (mm)
HM 190T	TR 950X8	1110	83	1030	70	38
HMLL 196T	TR 980X8	1090	65	1050	45	20
HM 30/1000	TR 1000X8	1140	100	1085	60	25
HM 31/1000	TR 1000X8	1240	125	1140	70	38
HM 200T	TR 1000X8	1160	83	1080	70	38
HMLL 207T	TR 1035X8	1155	67	1105	50	25
HM 30/1060	TR 1060X8	1200	100	1145	60	25
HM 31/1060	TR 1060X8	1300	125	1210	70	38
HML 212T	TR 1060X8	1180	78	1125	60	25
HM 212T	TR 1060X8	1220	85	1130	70	38
HMLL 219T	TR 1095X8	1215	67	1165	50	25
HM 30/1120	TR 1120X8	1260	100	1205	60	25
HML 224T	TR 1120X8	1240	79	1185	60	25
HMLL 231T	TR 1155X8	1280	70	1230	50	25
HM 30/1180	TR 1180X8	1320	100	1265	60	25
HMLL 243T	TR 1215X8	1340	70	1290	50	25



LOCKNUT KM, KML, HML, HMT



LOCKNUT HM WITH MS



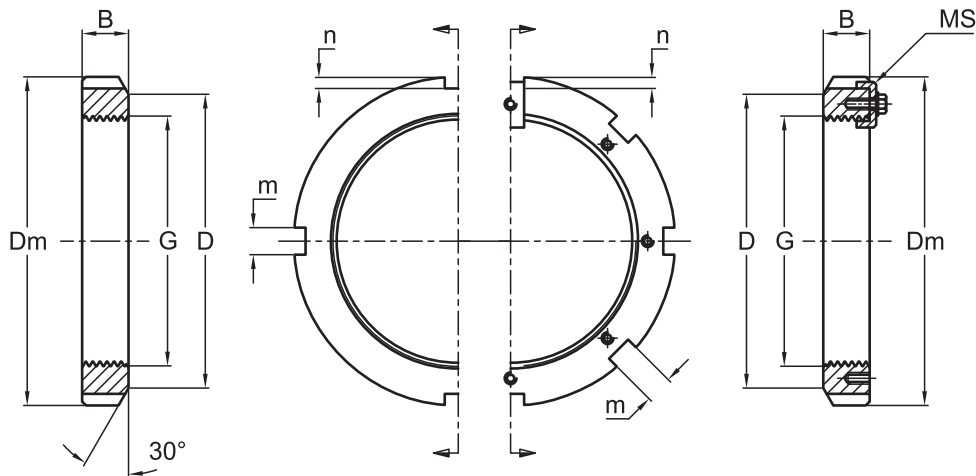
Weight (kg)	Locking device
153.0	
89.30	
170.0	MS 30/1000
374.0	MS 31/1000
161.0	
104.0	
180.0	MS 30/1000
396.0	MS 31/1000
124.0	
171.0	
110.0	
190.0	MS 30/1000
132.0	
126.0	
200.0	MS 30/1000
131.0	

LOCKNUT HM, HML, HMT Nuts with thread in inch

Locknut

Code	G*	Dm (mm)	B (mm)	D (mm)	m (mm)	n (mm)
KM 0 32F	0.391"x32F	18	4	13.5	3	2
KM 1 32F	0.469"x32F	22	4	17	3	2
KM 2 32F	0.586"x32F	25	5	21	4	2
KM 3 32F	0.664"x32F	28	5	24	4	2
KM 4 32F	0.781"x32F	32	6	26	4	2
KM 5 32F	0.969"x32F	38	7	32	5	2
KM 6 18F	1.173"x18F	45	7	38	5	2
KM 7 18F	1.376"x18F	52	8	44	5	2
KM 8 18F	1.563"x18F	58	9	50	6	2.5
KM 9 18F	1.767"x18F	65	10	56	6	2.5
KM 10 18F	1.967"x18F	70	11	61	6	2.5
KM 11 18F	2.157"x18F	75	11	67	7	3
KM 12 18F	2.360"x18F	80	11	73	7	3
KM 13 18F	2.548"x18F	85	12	79	7	3
KM 14 18F	2.751"x18F	92	12	85	8	3.5
KM 15 12F	2.933"x12F	98	13	90	8	3.5
KM 16 12F	3.137"x12F	105	15	95	8	3.5
KM 17 12F	3.340"x12F	110	16	102	8	3.5
KM 18 12F	3.527"x12F	120	16	108	10	4
KM 19 12F	3.730"x12F	125	17	113	10	4
KM 20 12F	3.918"x12F	130	18	120	10	4
KM 21 12F	4.122"x12F	140	18	126	12	5
KM 22 12F	4.325"x12F	145	19	133	12	5
KM 24 12F	4.716"x12F	155	20	138	12	5
KM 26 12F	5.106"x12F	165	21	149	12	5
KM 28 12F	5.497"x12F	180	22	160	14	6
KM 30 12F	5.888"x12F	195	24	171	14	6
KM 32 8F	6.284"x8F	210	25	182	16	7
KM 34 8F	6.659"x8F	220	26	193	16	7
KM 36 8F	7.066"x8F	230	27	203	18	8
KM 38 8F	7.472"x8F	240	28	214	18	8
KM 40 8F	7.847"x8F	250	29	226	18	8
HM 44T 8F	8.628"x8F	280	32	250	20	10
HM 48T 6F	9.442"x6F	300	34	270	20	10
HM 52T 6F	10.192"x6F	330	35	300	24	12
HM 56T 6F	11.004"x6F	350	38	320	24	12
HM 3060 6F	11.785"x6F	370	36	340	24	12
HM 3064 6F	12.562"x6F	400	40	370	24	12

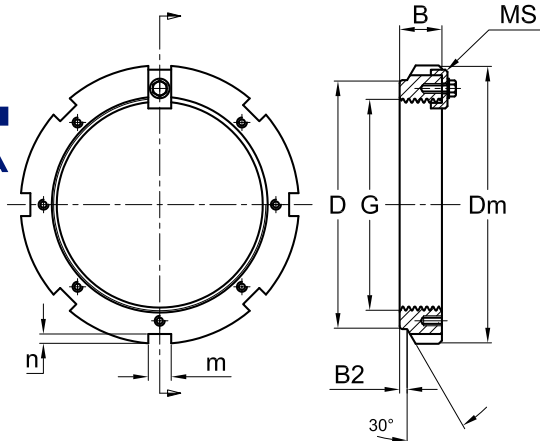
* Example of thread code: 1,967" X 32 F 1,967": thread diameter in decimal inch, 32 F: thread pitch in threads per inch. Triangular thread profile: 60°.



LOCKNUT KM, KML, HMT

LOCKNUT HM WITH MS

Weight (kg)	Locking device	Hook spanner
0.004	MB 0	HN 1
0.007	MB 1	HN 1
0.010	MB 2	HN 2
0.013	MB 3	HN 3
0.020	MB 4	HN 4
0.015	MB 5	HN 5
0.043	MB 6	HN 6
0.058	MB 7	HN 7
0.080	MB 8	HN 8
0.109	MB 9	HN 9
0.130	MB 10	HN 10
0.145	MB 11	HN 11
0.160	MB 12	HN 12
0.190	MB 13	HN 13
0.220	MB 14	HN 14
0.270	MB 15	HN 15
0.365	MB 16	HN 16
0.410	MB 17	HN 17
0.525	MB 18	HN 18
0.590	MB 19	HN 19
0.665	MB 20	HN 20
0.795	MB 21	HN 21
0.885	MB 22	HN 22
0.985	MB 24	HN 24
1.125	MB 26	HN 26
1.425	MB 28	HN 28
1.880	MB 30	HN 30
2.315	MB 32	HN 32
2.595	MB 34	HN 34
2.830	MB 36	HN 36
3.080	MB 38	HN 38
3.385	MB 40	HN 40
5.000	MB 44	HN 44
5.600	MB 48	
8.400	MB 52	
8.600	MB 56	
10.300	MS 3060	
12.000	MS 3064-MS 3068	



LOCKNUT

HME Locknut with thread in mm LOCKNUT HME WITH MS

Code	G*	Dm mm	D mm	B mm	B2 mm	m mm	n mm	Weight Kg	Locking Device
HME 3044	TR 220x4	260	237	30	5	20	9	2.5	MS 3044
HME 3048	TR 240x4	290	264	34	8	20	10	4.0	MS 3048-MS 3052
HME 3052	TR 260x4	310	288	34	8	20	10	4.3	MS 3048-MS 3052
HME 3072	TR 360x5	420	394	45	8	28	13	11.0	MS 3072
HME 3076	TR 380x5	450	422	48	10	28	14	14.0	MS 3076-MS 3080
HME 3080	TR 400x5	470	442	52	10	28	14	16.0	MS 3076-MS 3080
HME 3084	TR 420x5	490	462	52	10	32	14	18.5	MS 3084
HME 3088	TR 440x5	520	488	60	12	32	15	24.0	MS 3088-MS 3092
HME 3096	TR 480x5	560	530	60	12	36	15	26.0	MS 3096-30/500
HME 30/500	TR 500x5	580	550	68	12	36	15	33.5	MS 3096-30/500
HME 30/530	TR 530x6	630	571	68	15	40	20	37.0	MS 30/530-600
HME 30/560	TR 560x6	650	610	75	15	40	20	44.5	MS 30/560
HME 30/600	TR 600x6	700	657	75	18	40	20	52.5	MS 30/530-600
HME 30/630	TR 630x6	730	690	75	18	45	20	55.0	MS 30/630
HME 30/710	TR 710x7	830	766	90	20	50	25	91.5	MS 30/710
HME 30/750	TR 750x7	870	820	90	20	55	25	94.0	MS 30/750-800
HME 30/800	TR 800x7	920	870	90	20	55	25	90.5	MS 30/750-800
HME 30/850	TR 850x7	980	925	90	20	60	25	110.0	MS 30/850-900
HME 30/900	TR 900x7	1030	975	100	25	60	25	117.0	MS 30/850-900
HME 30/950	TR 950x8	1080	1025	100	25	60	25	124.0	MS 30/950
HME 30/1000	TR 1000x8	1140	1085	100	25	60	25	141.0	MS 30/1000
HME 30/1060	TR 1060x8	1200	1145	100	25	60	25	149.0	MS 30/1000
HME 3160	TR 300x4	380	335	40	5	24	12	11.0	MS 3160
HME 3168	TR 340x5	440	382	55	8	28	15	22.0	MS 3168-MS 3172
HME 3172	TR 360x5	460	406	58	10	28	15	24.0	MS 3168-MS 3172
HME 3176	TR 380x5	490	438	60	15	32	18	28.5	MS 3176
HME 3180	TR 400x5	520	456	62	15	32	18	33.0	MS 3180-MS 3184
HME 3188	TR 440x5	560	508	70	15	36	20	42.5	MS 3188-MS 3192
HME 3192	TR 460x5	580	535	75	20	36	20	45.5	MS 3188-MS 3192
HME 3196	TR 480x5	620	560	75	20	36	20	55.0	MS 3196
HME 31/500	TR 500x5	630	580	80	12	40	23	60.0	MS 31/500
HME 31/560	TR 560x6	710	650	85	15	45	25	80.5	MS 31/560-600
HME 31/600	TR 600x6	750	690	85	15	45	25	85.0	MS 31/560-600
HME 31/630	TR 630x6	800	730	95	18	50	28	115.0	MS 31/630
HME 31/670	TR 670x6	850	775	106	18	50	28	144.0	MS 31/670
HME 31/710	TR 710x7	900	825	106	20	55	30	149.0	MS 31/710
HME 31/750	TR 750x7	950	875	112	20	60	34	177.0	MS 31/750-800
HME 31/800	TR 800x7	1000	925	112	20	60	34	187.0	MS 31/750-800
HME 31/850	TR 850x7	1060	975	118	25	70	38	212.0	MS 31/850
HME 31/1000	TR 1000x8	1240	1140	125	25	70	38	305.0	MS 31/1000

* Example of thread code: TR 220X4: trapezoidal metric thread, 220: thread diameter, 4: thread pitch.



LOCKNUT KMP

They have external slots and fixation is made using hook spanners. The clamping occurs with use of brass pin pressed by a screw. This pin has the thread profile, enabling the clamping of the nut without causing damages to the thread of the shaft. It is not necessary to use lockwasher or jam nut.

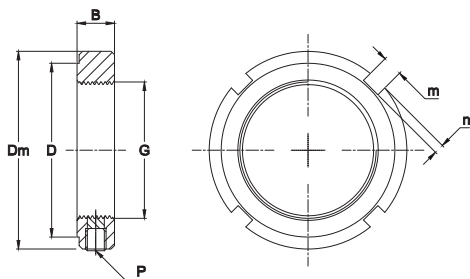


LOCKNUT KMFE

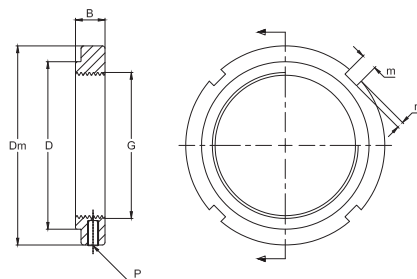
The fixation must be done with use of hook spanner. The clamping occurs when the screw of the locknut is fastened, pressing some threads of the thread against the shaft. It is not necessary to use lockwasher or jam nut. To disassemble the set, it is recommended to loose the screw, giving some hits with a rubber hammer at the area of the screw to put threads of thread into the original position. These locknuts are used together with the adapter sleeves with suffix E, to fasten the bearing with toroidal rollers

LOCKNUT KMP, KMFE Nuts with thread in mm

	Code	G*	Dm (mm)	B (mm)	D (mm)	m (mm)	n (mm)
Locknut	KMP 0	M 10x0,75	20	9	16	3	2
	KMP 1	M 12x1	22	9	18	3	2
	KMP 2	M 15x1	25	9	21	4	2
	KMP 3	M 17x1	28	9	24	4	2
	KMP 4	M 20x1	32	9	28	4	2
	KMFE 4	M 20x1	32	9.5	26	4	2
	KMFE 5	M 25x1.5	38	10.5	31	5	2
	KMP 5	M 25x1.5	38	9	34	5	2
	KMFE 6	M 30x1.5	45	10.5	36	5	2
	KMP 6	M 30x1.5	45	9	41	5	2
	KMFE 7	M 35x1.5	52	11.5	42.5	5	2
	KMP 7	M 35x1.5	52	9	48	5	2
	KMP 8	M 40x1.5	58	11	53	6	2.5
	KMFE 8	M 40x1.5	58	13	47	6	2.5
	KMP 9	M 45x1.5	65	11	60	6	2.5
	KMFE 9	M 45x1.5	65	13	53	6	2.5
	KMP 10	M 50x1.5	70	14	65	6	2.5
	KMFE 10	M 50x1.5	70	14	57.5	6	2.5
	KMP 11	M 55x2	75	14	69	7	3
	KMFE 11	M 55x2	75	14	64	7	3
	KMP 12	M 60x2	80	15	74	7	3
	KMFE 12	M 60x2	80	14	69	7	3
	KMP 13	M 65x2	85	15	79	7	3
	KMFE 13	M 65x2	85	15	76	7	3
	KMP 14	M 70x2	92	15	85	8	3.5
	KMFE 14	M 70x2	92	15	79	8	3.5
	KMP 15	M 75x2	98	14	91	8	3.5
	KMFE 15	M 75x2	98	16	85	8	3.5
	KMP 16	M 80x2	105	18	98	8	3.5
	KMFE 16	M 80x2	105	18	91.5	8	3.5
	KMP 17	M 85x2	110	18	103	8	3.5
	KMFE 17	M 85x2	110	19	98	8	3.5
	KMP 18	M 90x2	120	18	112	10	4
	KMFE 18	M 90x2	120	19	102	10	4
	KMP 19	M 95x2	125	20	117	10	4
	KMFE 19	M 95x2	125	20	110	10	4
	KMP 20	M 100x2	130	20	122	10	4
	KMFE 20	M 100x2	130	21	112	10	4
	KMFE 21	M 105x2	140	21	112	12	5
	KMFE 22	M 110x2	145	21.5	122	12	5
	KMFE 23	M 115x2	150	25	126	12	5
	KMFE 24	M 120x2	155	26	130	12	5
	KMFE 25	M 125x2	160	27	136	12	5
	KMFE 26	M 130x2	165	28	141	12	5



LOCKNUT KMP



LOCKNUT KMFE

P	Weight (Kg)
M 5	0.016
M 5	0.018
M 5	0.021
M 5	0.027
M 5	0.019
M 5	0.031
M 5	0.042
M 5	0.045
M 5	0.058
M 5	0.060
M 5	0.080
M 5	0.070
M 6	0.110
M 6	0.110
M 6	0.140
M 6	0.140
M 6	0.180
M 6	0.160
M 8	0.190
M 6	0.180
M 8	0.200
M 6	0.190
M 8	0.240
M 6	0.230
M 8	0.280
M 6	0.260
M 8	0.320
M 6	0.320
M 10	0.480
M 8	0.420
M 10	0.530
M 8	0.460
M 10	0.650
M 8	0.580
M 10	0.760
M 8	0.660
M 10	0.800
M 8	0.710
M 8	0.850
M 8	0.930
M 10	1.110
M 10	1.160
M 10	1.260
M 10	1.330

**Hook
spanner**

HN 1
HN 1
HN 2
HN 3
HN 4
HN 4
HN 5
HN 5
HN 6
HN 6
HN 7
HN 7
HN 8
HN 8
HN 9
HN 9
HN 10
HN 10
HN 11
HN 11
HN 12
HN 12
HN 13
HN 13
HN 14
HN 14
HN 15
HN 16
HN 16
HN 17
HN 17
HN 18
HN 18
HN 19
HN 19
HN 20
HN 20
HN 21
HN 22
HN 23
HN 24
HN 25
HN 26



PRECISION NUT KMT, KMTA

They are used for fastening bearings in machines and equipment which need extreme precision, such as: lathes, mills, engines, grinders, block valves and equipment as spindle and ball spindle.

To fasten on the shaft, these nuts have three pins distributed in angle, which are pressed against the shaft through screws. The pins have an inclination equal to the thread angle, thus enabling that the nut be not subject to axial loads, making it possible to fasten the nut in the exact clamping position.

The main difference between KMT and KMTA is the tightening way of the nut. The fixation of the KMT can be made with hook spanner or wrench, whereas the fastening process of the KMTA can be made with the pin wrench.

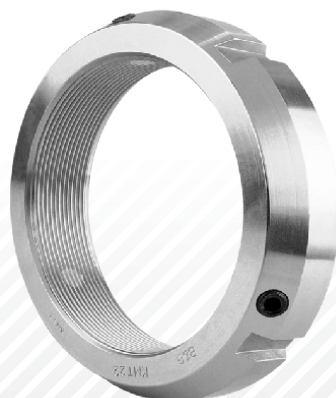
Material: Carbon steel

Superficial treatment: Phosphating

Optional: Stainless steel



NUT KMT 0 TO KMT 15

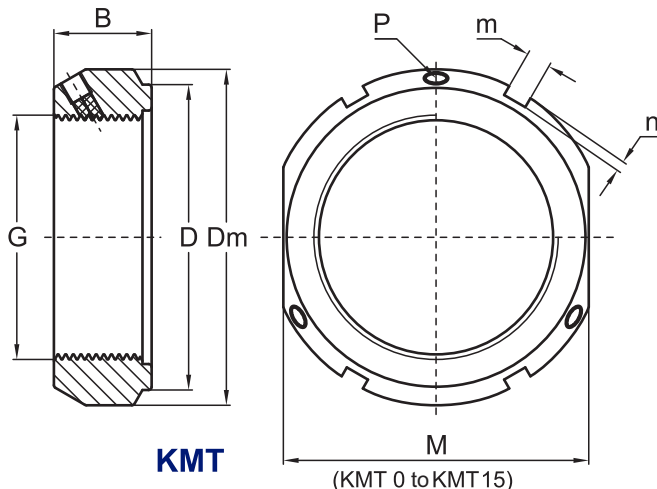


NUT KMT 16 TO KMT 68



NUT KMTA

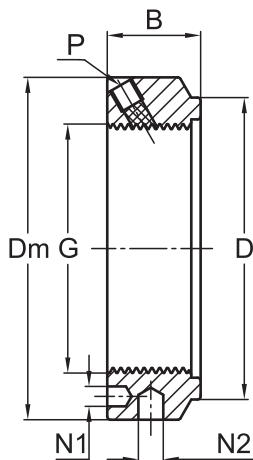
PRECISION NUT



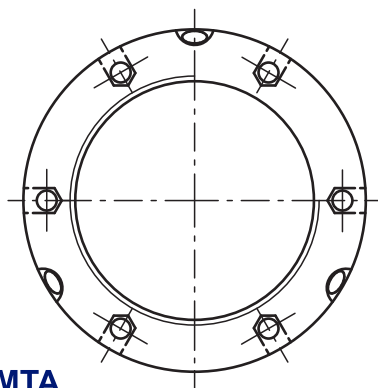
Precision Nut

Code	G*	Dm (mm)	D (mm)	B (mm)	m (mm)	n (mm)	M (mm)	N1 (mm)	N2 (mm)	P	Fixation torque (Nm)	Weight (Kg)	Adequate hook spanner
KMT 0	M 10X0,75	28	23	14	4	2	24			M 5	4,5	0.045	HN 3
KMT 1	M 12X1	30	25	14	4	2	27			M 5	4,5	0.055	HN 3
KMT 2	M 15X1	33	28	16	4	2	30			M 5	4,5	0.070	HN 4
KMT 3	M 17X1	37	33	18	5	2	34			M 6	8	0.100	HN 5
KMT 4	M 20X1	40	35	18	5	2	36			M 6	8	0.105	HN 5
KMT 5	M 25X1,5	44	39	20	5	2	41			M 6	8	0.135	HN 6
KMTA 5	M 25X1,5	42	35	20				4.3	4	M 6	8	0.125	
KMT 6	M 30X1,5	49	44	20	5	2	46			M 6	8	0.150	HN 6
KMTA 6	M 30X1,5	48	40	20				4.3	5	M 6	8	0.150	
KMT 7	M 35X1,5	54	49	22	5	2	50			M 6	8	0.190	HN 7
KMTA 7	M 35X1,5	53	47	20				4.3	5	M 6	8	0.175	
KMT 8	M 40X1,5	65	59	22	6	2.5	60			M 8	18	0.270	HN 9
KMTA 8	M 40X1,5	58	52	22				4.3	5	M 6	8	0.200	
KMT 9	M 45X1,5	70	64	22	6	2.5	65			M 8	18	0.290	HN 10
KMTA 9	M 45X1,5	68	58	22				4.3	6	M 6	8	0.285	
KMT 10	M 50X1,5	75	68	25	7	3	70			M 8	18	0.400	HN 11
KMTA 10	M 50X1,5	70	63	24				4.3	6	M 6	8	0.290	
KMT 11	M 55X2	85	78	25	7	3	80			M 8	18	0.490	HN 13
KMTA 11	M 55X1,5	75	70	24				4.3	6	M 6	8	0.315	
KMT 12	M 60X2	90	82	26	8	3.5	85			M 8	18	0.545	HN 13
KMTA 12	M 60X1,5	84	75	24				5.3	6	M 8	18	0.420	
KMT 13	M 65X2	95	87	28	8	3.5	90			M 8	18	0.635	HN 14
KMTA 13	M 65X1,5	88	80	25				5.3	6	M 8	18	0.440	
KMT 14	M 70X2	100	92	28	8	3.5	95			M 8	18	0.680	HN 15
KMTA 14	M 70X1,5	95	86	26				5.3	8	M 8	18	0.580	
KMT 15	M 75X2	105	97	28	8	3.5	100			M 8	18	0.720	HN 16
KMTA 15	M 75X1,5	100	91	26				6.4	8	M 8	18	0.550	
KMT 16	M 80X2	110	100	32	8	3.5				M 8	18	0.600	HN 17
KMTA 16	M 80X2	110	97	30				6.4	8	M 8	18	0.930	
KMT 17	M 85X2	120	110	32	10	4				M 10	35	1.100	HN 18
KMTA 17	M 85X2	115	102	32				6.4	8	M 10	35	1.050	
KMT 18	M 90X2	125	115	32	10	4				M 10	35	1.265	HN 19
KMTA 18	M 90X2	120	110	32				6.4	8	M 10	35	1.125	

* Example of thread code: M 50 x 1,5 M: metric thread, 50: thread diameter , 1,5: thread pitch.



KMTA



Code	G*	Dm (mm)	D (mm)	B (mm)	m (mm)	n (mm)	N1 (mm)	N2 (mm)	P	Fixation torque (Nm)	Weight (Kg)	Adequate hook spanner
KMT 19	M 95X2	130	120	32	10	4	6.4	8	M 10	35	1.205	HN 20
KMTA 19	M 95X2	125	114	32					M 10	35	1.070	
KMT 20	M 100X2	135	125	32	10	4	6.4	8	M 10	35	1.260	HN 20
KMTA 20	M 100X2	130	120	32					M 10	35	1.130	
KMT 22	M 110X2	145	134	32	10	4	6.4	8	M 10	35	1.505	HN 22
KMTA 22	M 110X2	140	132	32					M 10	35	1.280	
KMT 24	M 120X2	155	144	32	10	4	6.4	8	M 10	35	1.625	HN 24
KMTA 24	M 120X2	155	142	32					M 10	35	1.725	
KMT 26	M 130X2	165	154	32	12	5	6.4	8	M 10	35	1.570	HN 26
KMTA 26	M 130X3	165	156	32					M 10	35	2.00	
KMT 28	M 140X2	175	164	32	14	6	6.4	10	M 10	35	1.850	HN 27
KMTA 28	M 140X3	180	166	32					M 10	35	2.125	
KMT 30	M 150X2	185	174	32	14	6	6.4	10	M 10	35	1.795	HN 28
KMTA 30	M 150X3	190	180	32					M 10	35	2.600	
KMT 32	M 160X3	195	184	32	14	6	8.4	10	M 10	35	1.890	HN 30
KMTA 32	M 160X3	205	190	32					M 10	35	2.715	
KMT 34	M 170X3	205	194	32	14	6	8.4	10	M 10	35	2.035	HN 31
KMTA 34	M 170X3	215	205	32					M 10	35	3.300	
KMT 36	M 180X3	215	204	32	16	7	8.4	10	M 10	35	2.120	HN 33
KMTA 36	M 180X3	230	215	32					M 10	35	3.440	
KMT 38	M 190X3	225	214	32	16	7	8.4	10	M 10	35	2.255	HN 34
KMTA 38	M 190X3	240	225	32					M 10	35	4.100	
KMT 40	M 200X3	235	224	32	18	8	8.4	10	M 10	35	2.355	HN 36
KMTA 40	M 200X3	245	237	32					M 10	35	3.850	
KMT 44	TR 220X4	265	254	36	20	10			M 10	35	4.600	HN 40
KMT 48	TR 240X4	290	279	38	20	10			M 12	60	5.400	HN 44
KMT 52	TR 260X4	310	299	38	20	10			M 12	60	6.400	
KMT 56	TR 280X4	330	319	40	24	12			M 12	60	7.200	
KMT 60	TR 300X4	360	349	42	24	12			M 12	60	9.100	
KMT 64	TR 320X5	390	379	45	24	12			M 12	60	12.700	
KMT 68	TR 340X5	410	399	48	24	12			M 12	60	15.400	

Precision Nut

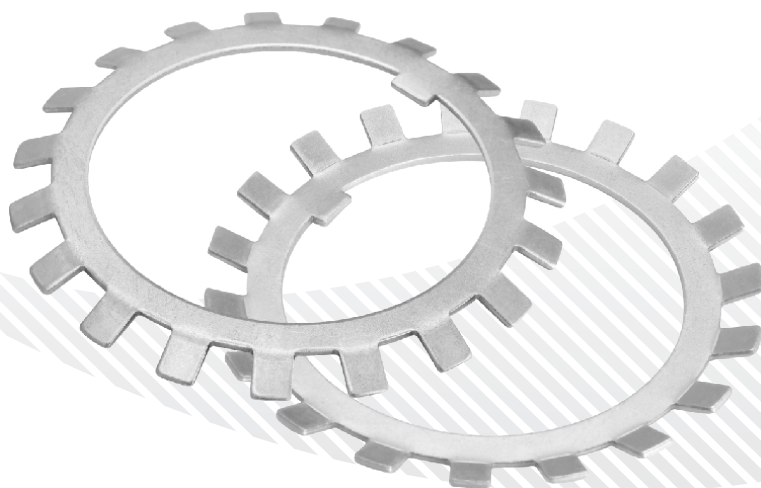
* Example of thread code: M 50 x 1,5 M: metric thread, 50: thread diameter , 1,5: thread pitch.

LOCKWASHER MB, MBL, MBA

This is the accessory to clamp the nuts KM and always is together with adapter sleeves, when they are assembled with these nuts.

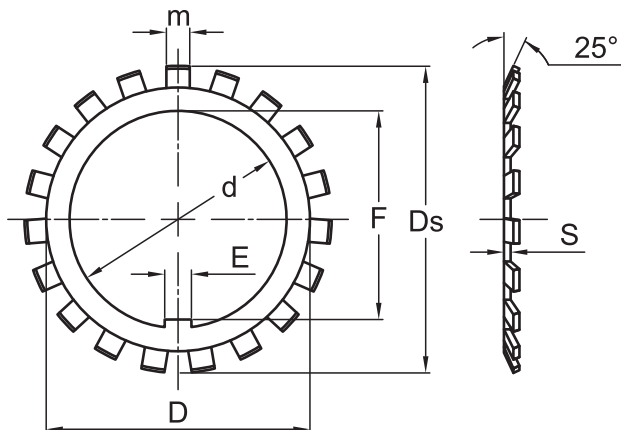
Material: Carbon steel.

Optional: Stainless steel.



Code	d (mm)	Ds (mm)	D (mm)	S (mm)	E (mm)	F (mm)	m (mm)	Weight (Kg)
MB 0	10	21	13.5	1.00	3	8.5	3	0.001
MB 1	12	25	17	1.00	3	10.5	3	0.002
MB 1 A	12	25	17	1.20	3	10.5	3	0.002
MB 2	15	28	21	1.00	4	13.5	4	0.002
MB 2 A	15	28	21	1.20	4	13.5	4	0.003
MB 3	17	32	24	1.00	4	15.5	4	0.002
MB 3 A	17	32	24	1.20	4	15.5	4	0.003
MB 4	20	36	26	1.00	4	18.5	4	0.004
MB 4 A	20	36	26	1.20	4	18.5	4	0.005
MB 5	25	42	32	1.20	5	23.0	5	0.005
MB 5 A	25	42	32	1.75	5	23.0	5	0.009
MB 6	30	49	38	1.20	5	27.5	5	0.006
MB 6 A	30	49	38	1.75	5	27.5	5	0.011
MB 7	35	57	44	1.20	6	32.5	5	0.009
MB 7 A	35	57	44	1.75	6	32.5	5	0.016
MB 8	40	62	50	1.20	6	37.5	6	0.010
MB 8 A	40	62	50	1.75	6	37.5	6	0.018
MB 9	45	69	56	1.20	6	42.5	6	0.012
MB 9 A	45	69	56	1.75	6	42.5	6	0.021
MB 10	50	74	61	1.20	6	47.5	6	0.013

LOCKWASHER MB, MBL, MBA



Code	d (mm)	Ds (mm)	D (mm)	S (mm)	E (mm)	F (mm)	m (mm)	Weight (Kg)
MB 10 A	50	74	61	2.65	6	47.5	6	0.023
MB 11	55	81	67	1.50	8	52.5	7	0.022
MB 11 A	55	81	67	2.65	8	52.5	7	0.037
MB 12	60	86	73	1.50	8	57.5	7	0.024
MB 12 A	60	86	73	2.65	8	57.5	7	0.040
MB 13	65	92	79	1.50	8	62.5	7	0.028
MB 13 A	65	92	79	2.65	8	62.5	7	0.050
MB 14	70	98	85	1.50	8	66.5	8	0.031
MB 14 A	70	98	85	2.65	8	66.5	8	0.053
MB 15	75	104	90	1.50	8	71.5	8	0.035
MB 15 A	75	104	90	2.65	8	71.5	8	0.058
MB 16	80	112	95	1.75	10	76.5	8	0.049
MB 16 A	80	112	95	2.65	10	76.5	8	0.066
MB 17	85	119	102	1.75	10	81.5	8	0.056
MB 17 A	85	119	102	2.65	10	81.5	8	0.076
MB 18	90	126	108	1.75	10	86.5	10	0.068
MB 18 A	90	126	108	2.65	10	86.5	10	0.087
MB 19	95	133	113	1.75	10	91.5	10	0.071
MB 19 A	95	133	113	2.65	10	91.5	10	0.094
MB 20	100	142	120	1.75	12	96.5	10	0.082
MB 20 A	100	142	120	2.65	12	96.5	10	0.110
MB 21	105	145	126	1.75	12	100.5	12	0.079
MB 22	110	154	133	1.75	12	105.5	12	0.101
MB 23	115	159	137	2.00	12	110.5	12	0.105
MB 24	120	164	138	2.00	14	115.0	12	0.095
MBL 24	120	148	135	2.00	14	115.0	12	0.070
MB 25	125	170	148	2.00	14	120.0	12	0.115
MB 26	130	175	149	2.00	14	125.0	12	0.100
MBL 26	130	158	145	2.00	14	125.0	12	0.090
MB 27	135	191	160	2.00	14	130.0	14	0.145
MB 28	140	192	160	2.00	16	135.0	14	0.125
MBL 28	140	170	155	2.00	16	135.0	12	0.110
MB 29	145	202	171	2.00	16	140.0	14	0.155
MB 30	150	202	171	2.00	16	145.0	14	0.135
MBL 30	150	186	170	2.00	16	145.0	14	0.145
MB 31	155	216	182	2.50	16	147.5	16	0.255
MB 32	160	217	182	2.50	18	154.0	16	0.235
MBL 32	160	197	180	2.50	18	154.0	14	0.155
MB 33	165	227	193	2.50	18	157.5	16	0.275
MB 34	170	227	193	2.50	18	164.0	16	0.245
MBL 34	170	209	190	2.50	18	164.0	16	0.180
MB 36	180	242	203	2.50	20	174.0	18	0.270
MBL 36	180	215	200	2.50	20	174.0	16	0.185
MB 38	190	252	214	2.50	20	184.0	18	0.275
MBL 38	190	228	210	2.50	20	184.0	16	0.190
MB 40	200	262	226	2.50	20	194.0	18	0.300
MBL 40	200	248	222	2.50	20	194.0	18	0.240
MB 44	220	292	250	3.00	24	213.0	20	0.440
MB 48	240	312	270	3.00	24	233.0	20	0.465
MB 52	260	342	300	3.00	28	253.0	24	0.620
MB 56	280	362	320	3.00	28	273.0	24	0.665

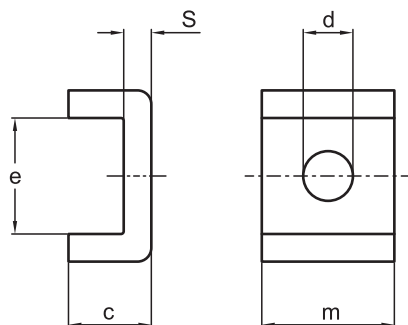
LOCKING DEVICE - MS

These devices are used to clamp the nuts HM.

Material: steel SAE 1045

Washer and screw are together with the locking device.





Code	m (mm)	S (mm)	c (mm)	d (mm)	e (mm)	Screw	Weight (Kg)
MS 3044	20	4	12	7	13.5	M 6x12	0.035
MS 3048-MS 3052	20	4	12	9	17.5	M 8x16	0.035
MS 3056	24	4	12	9	17.5	M 8x16	0.040
MS 3060	24	4	12	9	20.5	M 8x16	0.040
MS 3064-MS 3068	24	5	15	9	21	M 8x16	0.055
MS 3072	28	5	15	9	20	M 8x16	0.060
MS 3076-MS 3080	28	5	15	12	24	M10x20	0.075
MS 3084	32	5	15	12	24	M10x20	0.084
MS 3088-MS 3092	32	5	15	14	28	M12x25	0.100
MS 3096-30/500	36	5	15	14	28	M12x25	0.110
MS 30/530-600	40	7	21	18	34	M16x30	0.230
MS 30/560	40	7	21	18	29	M16x30	0.210
MS 30/630	45	7	21	18	34	M16x30	0.250
MS 30/670	45	7	21	18	39	M16x30	0.265
MS 30/710	50	7	21	18	39	M16x30	0.280
MS 30/750-800	55	7	21	18	39	M16x30	0.305
MS 30/850-900	60	7	21	22	44	M20x40	0.420
MS 30/950	60	7	21	22	46	M20x40	0.259
MS 30/1000	60	7	21	22	51	M20x40	0.275
MS 3144-MS 3148	20	4	12	9	22.5	M 8x16	0.035
MS 3152-MS 3156	24	4	12	12	25.5	M 8x16	0.055
MS 3160	24	4	12	12	30.5	M10x20	0.060
MS 3164	24	5	15	12	31	M10x20	0.075
MS 3168-MS 3172	28	5	15	14	38	M12x25	0.100
MS 3176	32	5	15	14	40	M12x25	0.115
MS 3180-MS 3184	32	5	15	18	45	M16x30	0.155
MS 3188-MS 3192	36	5	15	18	43	M16x30	0.170
MS 3196	36	5	15	18	53	M16x30	0.104
MS 31/500	40	5	15	18	45	M16x30	0.180
MS 31/530	40	7	21	22	51	M20x40	0.345
MS 31/560-600	45	7	21	22	54	M20x40	0.216
MS 31/630	50	7	21	22	61	M20x40	0.430
MS 31/670	50	7	21	22	66	M20x40	0.450
MS 31/710	55	7	21	26	69	M20x40	0.297
MS 31/750-800	60	7	21	26	70	M24x50	0.330
MS 31/850	70	7	21	26	71	M24x50	0.393
MS 31/900	70	7	21	26	76	M24x50	0.413
MS 31/950	70	7	21	26	78	M24x50	0.420
MS 31/1000	70	7	21	26	88	M24x50	0.459





HYDRAULIC NUT - HMV...E

The hydraulic nut is a **tool** used to ease the assembly and disassembly of bearing in adapter sleeves or shafts.

This component facilitates the work, enabling the assembly without impacts, what has a contribution for the life increase of the assembled set. The hydraulic nut uses the manual hydraulic pump to make the heavy service, with low time to perform the assembly and disassembly comparatively to the traditional methods using wrench and hammer.

Material: steel SAE 1045

The hydraulic nut HMV...E is composed by a threaded body (with lodge for dial indicator and nylon screw M6 for fixation), a threaded piston, a plug and washer, a straight pin spanner, a set of ORING and one extra set.

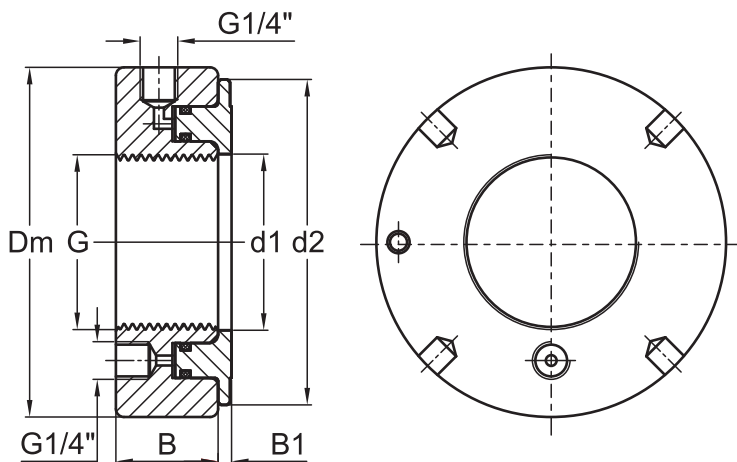
Obs: Dial indicator and nipple for quick connection 1/4 BSP are not together.

HYDRAULIC NUT HMV...E THREAD IN MM

Code	G*	d1 (mm)	d2 (mm)	Dm (mm)	B (mm)	B1 (mm)	Max. axial displacement	Thread for oil injection
HMV 10E	M 50X1,5	50.5	104	114	38	4	5	G1/4"
HMV 11E	M 55X2	55.5	109	120	38	4	5	G1/4"
HMV 11x1.5E	M 55X1,5	55.5	109	120	38	4	5	G1/4"
HMV 12E	M 60X2	60.5	115	125	38	5	5	G1/4"
HMV 12x1.5E	M 60X1,5	60.5	115	125	38	5	5	G1/4"
HMV 13E	M 65X2	65.5	121	130	38	5	5	G1/4"
HMV 13x1.5E	M 65X1,5	65.5	121	130	38	5	5	G1/4"
HMV 14E	M 70X2	70.5	127	135	38	5	5	G1/4"
HMV 15E	M 75X2	75.5	132	140	38	5	5	G1/4"
HMV 16E	M 80X2	80.5	137	146	38	5	5	G1/4"
HMV 17E	M 85X2	85.5	142	150	38	5	5	G1/4"
HMV 18E	M 90X2	90.5	147	156	38	5	5	G1/4"
HMV 19E	M 95X2	95.5	153	162	38	5	5	G1/4"
HMV 20E	M 100X2	100.5	158	166	38	6	5	G1/4"
HMV 21E	M 105X2	105.5	163	172	38	6	5	G1/4"
HMV 22E	M 110X2	110.5	169	178	38	6	5	G1/4"
HMV 23E	M 115X2	115.5	174	182	38	6	5	G1/4"
HMV 24E	M 120X2	120.5	179	188	38	6	5	G1/4"
HMV 25E	M 125X2	125.5	184	192	38	6	5	G1/4"
HMV 26E	M 130X2	130.5	190	198	38	6	5	G1/4"
HMV 27E	M 135X2	135.5	195	204	38	6	5	G1/4"
HMV 28E	M 140X2	140.5	200	208	38	7	5	G1/4"
HMV 29E	M 145X2	145.5	206	214	39	7	5	G1/4"
HMV 30E	M 150X2	150.5	211	220	39	7	5	G1/4"
HMV 31E	M 155X3	155.5	218	226	39	7	5	G1/4"
HMV 32E	M 160X3	160.5	224	232	40	7	6	G1/4"
HMV 33E	M 165X3	165.5	229	238	40	7	6	G1/4"
HMV 34E	M 170X3	170.5	235	244	41	7	6	G1/4"
HMV 36E	M 180X3	180.5	247	256	41	7	6	G1/4"
HMV 38E	M 190X3	191	259	270	42	8	7	G1/4"
HMV 40E	M 200X3	201	271	282	43	8	8	G1/4"
HMV 41E	TR 205X4	207	276	288	43	8	8	G1/4"
HMV 42E	TR 210X4	212	282	294	43	8	9	G1/4"
HMV 43E	TR 215X4	217	287	300	43	8	9	G1/4"
HMV 44E	TR 220X4	222	293	306	43	8	9	G1/4"
HMV 45E	TR 225X4	227	300	312	45	8	9	G1/4"
HMV 46E	TR 230X4	232	305	318	45	8	9	G1/4"
HMV 47E	TR 235X4	237	311	326	46	8	10	G1/4"
HMV 48E	TR 240X4	242	316	330	46	9	10	G1/4"
HMV 50E	TR 250X4	252	329	342	46	9	10	G1/4"

* Example of thread code: M 50 x 1,5 M: metric thread, 50: thread diameter , 1,5: thread pitch.

* Example of thread code: TR 300X4: trapezoidal metric thread, 300: thread diameter , 4: thread pitch.

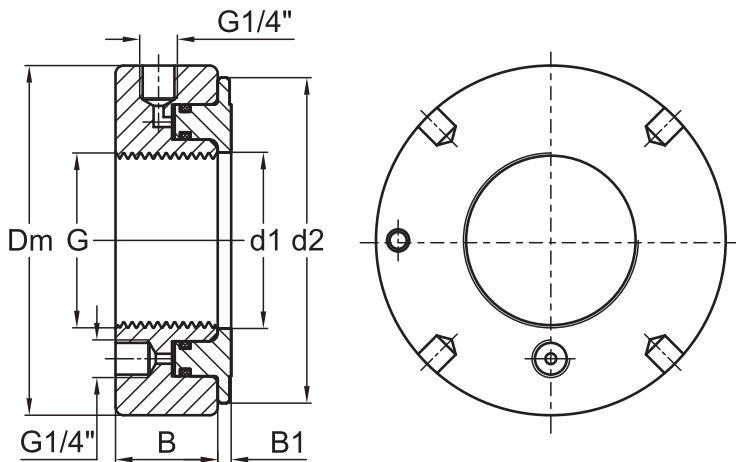


Weight (Kg)	Oring	Straight pin Key	Nylon screw	Reference of hydraulic pump
2.54	ORING 10	CPR 10	PARAF M6x12N	BH 100-0.7
2.76	ORING 11	CPR 10	PARAF M6x12N	BH 100-0.7
2.86	ORING 11	CPR 10	PARAF M6x12N	BH 100-0.7
2.99	ORING 12	CPR 10	PARAF M6x12N	BH 100-0.7
3.14	ORING 12	CPR 10	PARAF M6x12N	BH 100-0.7
3.16	ORING 13	CPR 10	PARAF M6x12N	BH 100-0.7
3.30	ORING 13	CPR 10	PARAF M6x12N	BH 100-0.7
3.33	ORING 14	CPR 10	PARAF M6x12N	BH 100-0.7
3.49	ORING 15	CPR 10	PARAF M6x12N	BH 100-0.7
3.72	ORING 16	CPR 10	PARAF M6x12N	BH 100-0.7
3.82	ORING 17	CPR 10	PARAF M6x12N	BH 100-0.7
4.05	ORING 18	CPR 10	PARAF M6x12N	BH 100-0.7
4.30	ORING 19	CPR 10	PARAF M6x12N	BH 100-0.7
4.49	ORING 20	CPR 12	PARAF M6x12N	BH 100-0.7
4.73	ORING 21	CPR 12	PARAF M6x12N	BH 100-0.7
5.00	ORING 22	CPR 12	PARAF M6x12N	BH 100-0.7
5.09	ORING 23	CPR 12	PARAF M6x12N	BH 100-0.7
5.35	ORING 24	CPR 12	PARAF M6x12N	BH 100-0.7
5.44	ORING 25	CPR 12	PARAF M6x12N	BH 100-0.7
5.71	ORING 26	CPR 12	PARAF M6x12N	BH 100-0.7
5.97	ORING 27	CPR 12	PARAF M6x12N	BH 100-0.7
6.18	ORING 28	CPR 12	PARAF M6x12N	BH 100-0.7
6.77	ORING 29	CPR 12	PARAF M6x12N	BH 100-0.7
7.07	ORING 30	CPR 12	PARAF M6x12N	BH 100-0.7
7.47	ORING 31	CPR 12	PARAF M6x12N	BH 100-0.7
7.97	ORING 32	CPR 12	PARAF M6x12N	BH 100-0.7
8.29	ORING 33	CPR 12	PARAF M6x12N	BH 100-0.7
8.82	ORING 34	CPR 12	PARAF M6x12N	BH 100-0.7
9.54	ORING 36	CPR 12	PARAF M6x12N	BH 100-0.7
10.95	ORING 38	CPR 12	PARAF M6x12N	BH 100-0.7
12.00	ORING 40	CPR 14	PARAF M6x12N	BH 100-0.7
12.48	ORING 41	CPR 14	PARAF M6x12N	BH 100-0.7
13.18	ORING 42	CPR 14	PARAF M6x12N	BH 100-0.7
13.60	ORING 43	CPR 14	PARAF M6x12N	BH 100-0.7
14.06	ORING 44	CPR 14	PARAF M6x12N	BH 100-0.7
14.83	ORING 45	CPR 14	PARAF M6x12N	BH 100-0.7
15.28	ORING 46	CPR 14	PARAF M6x12N	BH 100-0.7
16.43	ORING 47	CPR 14	PARAF M6x12N	BH 100-0.7
16.79	ORING 48	CPR 14	PARAF M6x12N	BH 100-0.7
17.87	ORING 50	CPR 14	PARAF M6x12N	BH 100-0.7

HYDRAULIC NUT HMV...E THREAD IN MM

Code	G*	d1 (mm)	d2 (mm)	Dm (mm)	B (mm)	B1 (mm)	Max. axial displacement	Thread for oil injection
HMV 52E	TR 260X4	262	341	356	47	9	11	G1/4"
HMV 54E	TR 270X4	272	352	368	48	9	12	G1/4"
HMV 56E	TR 280X4	282	363	380	49	9	12	G1/4"
HMV 58E	TR 290X4	292	375	390	49	9	13	G1/4"
HMV 60E	TR 300X4	302	386	404	50	10	14	G1/4"
HMV 62E	TR 310X5	312	397	416	52	10	14	G1/4"
HMV 64E	TR 320X5	322	409	428	53	10	14	G1/4"
HMV 66E	TR 330X5	332	419	438	53	10	14	G1/4"
HMV 68E	TR 340X5	342	430	450	54	10	14	G1/4"
HMV 69E	TR 345X5	347	436	456	54	10	14	G1/4"
HMV 70E	TR 350X5	352	442	464	56	10	14	G1/4"
HMV 72E	TR 360X5	362	455	472	56	10	15	G1/4"
HMV 73E	TR 365X5	367	460	482	56	11	15	G1/4"
HMV 74E	TR 370X5	372	466	486	56	11	16	G1/4"
HMV 76E	TR 380X5	382	476	498	58	11	16	G1/4"
HMV 77E	TR 385X5	387	483	504	58	11	16	G1/4"
HMV 80E	TR 400X5	402	499	522	60	11	17	G1/4"
HMV 82E	TR 410X5	412	510	534	61	11	17	G1/4"
HMV 84E	TR 420X5	422	522	546	61	11	17	G1/4"
HMV 86E	TR 430X5	432	532	556	62	11	17	G1/4"
HMV 88E	TR 440X5	442	543	566	62	12	17	G1/4"
HMV 90E	TR 450X5	452	554	580	64	12	17	G1/4"
HMV 92E	TR 460X5	462	565	590	64	12	17	G1/4"
HMV 94E	TR 470X5	472	576	602	65	12	18	G1/4"
HMV 96E	TR 480X5	482	587	612	65	12	19	G1/4"
HMV 98E	TR 490X5	492	597	624	66	12	19	G1/4"
HMV 100E	TR 500X5	502	609	636	67	12	19	G1/4"
HMV 102E	TR 510X6	512	624	648	68	12	20	G1/4"
HMV 104E	TR 520X6	522	634	658	68	13	20	G1/4"
HMV 106E	TR 530X6	532	645	670	69	13	21	G1/4"
HMV 108E	TR 540X6	542	657	682	69	13	21	G1/4"
HMV 110E	TR 550X6	552	667	693	70	13	21	G1/4"
HMV 112E	TR 560X6	562	678	704	71	13	22	G1/4"
HMV 114E	TR 570X6	572	689	716	72	13	23	G1/4"
HMV 116E	TR 580X6	582	699	726	72	13	23	G1/4"
HMV 120E	TR 600X6	602	721	748	73	13	23	G1/4"
HMV 126E	TR 630X6	632	754	782	74	14	23	G1/4"
HMV 130E	TR 650X6	652	775	804	75	14	23	G1/4"
HMV 134E	TR 670X6	672	796	826	75	14	24	G1/4"
HMV 138E	TR 690X6	692	819	848	77	14	25	G1/4"

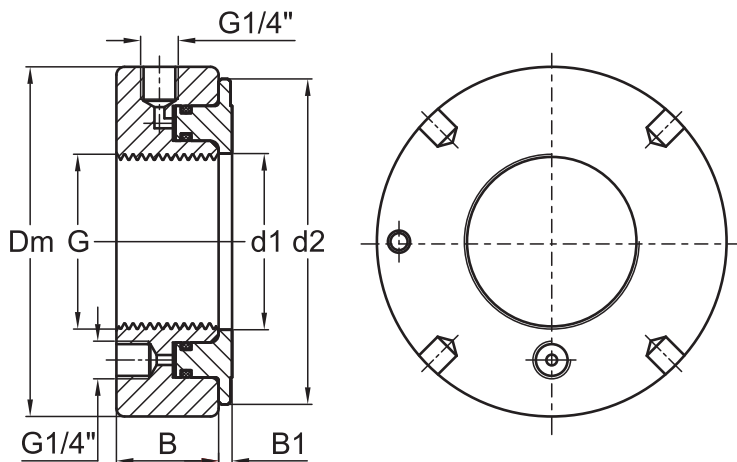
* Example of thread code: TR 300X4: trapezoidal metric thread, 300: thread diameter , 4: thread pitch.



Weight (Kg)	Oring	Straight pin Key	Nylon screw	Reference of hydraulic pump
19.69	ORING 52	CPR 14	PARAF M6x12N	BH 100-0.7
21.17	ORING 54	CPR 14	PARAF M6x12N	BH 100-0.7
22.71	ORING 56	CPR 14	PARAF M6x17N	BH 100-0.7
23.49	ORING 58	CPR 14	PARAF M6x17N	BH 100-0.7
26.41	ORING 60	CPR 16	PARAF M6x17N	BH 100-0.7
28.38	ORING 62	CPR 16	PARAF M6x17N	BH 100-0.7
30.29	ORING 64	CPR 16	PARAF M6x17N	BH 100-0.7
31.11	ORING 66	CPR 16	PARAF M6x17N	BH 100-0.7
33.09	ORING 68	CPR 16	PARAF M6x17N	BH 100-0.7
33.85	ORING 69	CPR 16	PARAF M6x17N	BH 100-0.7
36.37	ORING 70	CPR 16	PARAF M6x17N	BH 100-0.7
36.80	ORING 72	CPR 16	PARAF M6x17N	BH 100-0.7
39.92	ORING 73	CPR 18	PARAF M6x17N	BH 100-0.7
40.13	ORING 74	CPR 18	PARAF M6x17N	BH 100-0.7
41.90	ORING 76	CPR 18	PARAF M6x17N	BH 100-0.7
42.85	ORING 77	CPR 18	PARAF M6x17N	BH 100-0.7
47.35	ORING 80	CPR 18	PARAF M6x17N	BH 100-0.7
49.93	ORING 82	CPR 18	PARAF M6x20N	BH 100-0.7
51.93	ORING 84	CPR 18	PARAF M6x20N	BH 100-0.7
53.78	ORING 86	CPR 18	PARAF M6x20N	BH 100-0.7
55.55	ORING 88	CPR 18	PARAF M6x20N	BH 100-0.7
60.09	ORING 90	CPR 18	PARAF M6x20N	BH 100-0.7
61.35	ORING 92	CPR 18	PARAF M6x20N	BH 100-0.7
57.85	ORING 94	CPR 20	PARAF M6x20N	BH 100-0.7
65.69	ORING 96	CPR 20	PARAF M6x20N	BH 100-0.7
68.78	ORING 98	CPR 20	PARAF M6x20N	BH 100-0.7
72.14	ORING 100	CPR 20	PARAF M6x20N	BH 100-0.7
74.00	ORING 102	CPR 20	PARAF M6x20N	BH 100-0.7
75.00	ORING 104	CPR 20	PARAF M6x20N	BH 100-0.7
81.60	ORING 106	CPR 20	PARAF M6x20N	BH 100-0.7
81.00	ORING 108	CPR 20	PARAF M6x20N	BH 100-0.7
84.00	ORING 110	CPR 20	PARAF M6x20N	BH 100-0.7
90.95	ORING 112	CPR 20	PARAF M6x20N	BH 100-0.7
91.00	ORING 114	CPR 20	PARAF M6x20N	BH 100-0.7
96.36	ORING 116	CPR 20	PARAF M6x22N	BH 100-0.7
102.06	ORING 120	CPR 22	PARAF M6x22N	BH 100-0.7
112.04	ORING 126	CPR 22	PARAF M6x22N	BH 100-0.7
115.00	ORING 130	CPR 22	PARAF M6x22N	BH 100-0.7
123.03	ORING 134	CPR 22	PARAF M6x22N	BH 100-0.7
127.00	ORING 138	CPR 22	PARAF M6x22N	BH 160

HYDRAULIC NUT HMV...€ THREAD IN MM

Code	G*	d1 (mm)	d2 (mm)	Dm (mm)	B (mm)	B1 (mm)	Max. axial displacement	Thread for oil injection
HMV 142E	TR 710X7	712	840	870	78	15	25	G1/4"
HMV 150E	TR 750X7	752	883	912	79	15	25	G1/4"
HMV 160E	TR 800X7	802	936	965	80	16	25	G1/4"
HMV 170E	TR 850X7	852	990	1020	83	16	26	G1/4"
HMV 180E	TR 900X7	902	1043	1075	86	17	30	G1/4"
HMV 190E	TR 950X8	952	1097	1126	86	17	30	G1/4"
HMV 200E	TR 1000X8	1002	1150	1180	88	17	34	G1/4"
HMV 212E	TR 1060X8							G1/4"
HMV 224E	TR 1120X8							G1/4"
HMV 236E	TR 1180X8							G1/4"

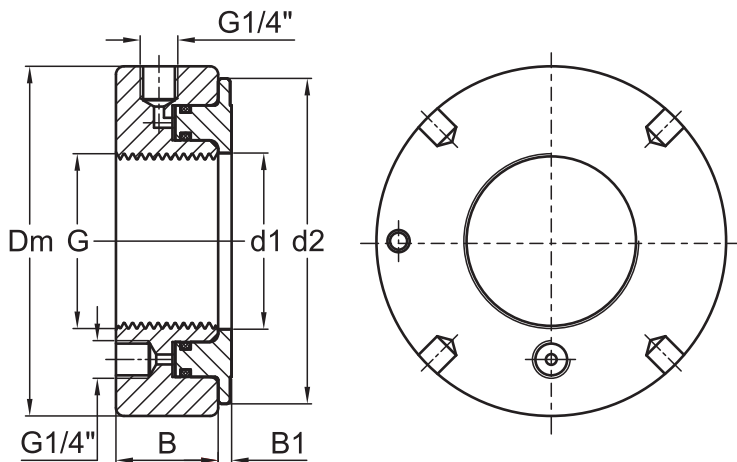


Weight (Kg)	Oring	Straight pin spanner	Nylon screw	Reference of hydraulic pump
135.00	ORING 142	CPR 22	PARAF M6x22N	BH 160
150.79	ORING 150	CPR 22	PARAF M6x22N	BH 160
166.34	ORING 160	CPR 22	PARAF M6x22N	BH 160
181.00	ORING 170	CPR 24	PARAF M6x22N	BH 160
205.00	ORING 180	CPR 24	PARAF M6x22N	BH 160
218.00	ORING 190	CPR 24	PARAF M6x22N	BH 160
239.00	ORING 200	CPR 24	PARAF M6x22N	BH 160

HYDRAULIC NUT HMVC...E THREAD IN INCH

Code	G*	d1 (mm)	d2 (mm)	Dm (mm)	B (mm)	B1 (mm)	Max. axial displacement	Thread for oil injection
HMVC 10E	1.967"X18F	50.5	104	114	38	4	5	G1/4"
HMVC 11E	2.157"X18F	55.5	109	120	38	4	5	G1/4"
HMVC 12E	2.360"X18F	60.5	115	125	38	5	5	G1/4"
HMVC 13E	2.548"X18F	65.5	121	130	38	5	5	G1/4"
HMVC 14E	2.751"X18F	70.5	127	135	38	5	5	G1/4"
HMVC 15E	2.933"X12F	75.5	132	140	38	5	5	G1/4"
HMVC 16E	3.137"X12F	80.5	137	146	38	5	5	G1/4"
HMVC 17E	3.340"X12F	85.5	142	150	38	5	5	G1/4"
HMVC 18E	3.527"X12F	90.5	147	156	38	5	5	G1/4"
HMVC 19E	3.730"X12F	95.5	153	162	38	5	5	G1/4"
HMVC 20E	3.918"X12F	100.5	158	166	38	6	5	G1/4"
HMVC 21E	4.122"X12F	105.5	163	172	38	6	5	G1/4"
HMVC 22E	4.325"X12F	110.5	169	178	38	6	5	G1/4"
HMVC 24E	4.716"X12F	120.5	179	188	38	6	5	G1/4"
HMVC 26E	5.106"X12F	130.5	190	198	38	6	5	G1/4"
HMVC 28E	5.497"X12F	140.5	200	208	38	7	5	G1/4"
HMVC 30E	5.888"X12F	150.5	211	220	39	7	5	G1/4"
HMVC 32E	6.284"X8F	160.5	224	232	40	7	6	G1/4"
HMVC 34E	6.659"X8F	170.5	235	244	41	7	6	G1/4"
HMVC 36E	7.066"X8F	180.5	247	256	41	7	6	G1/4"
HMVC 38E	7.472"X8F	191.0	259	270	42	8	7	G1/4"
HMVC 40E	7.847"X8F	201.0	271	282	43	8	8	G1/4"
HMVC 44E	8.628"X8F	222.0	293	306	43	8	9	G1/4"
HMVC 48E	9.442"X6F	242.0	316	330	46	9	10	G1/4"
HMVC 52E	10.192"X6F	262.0	341	356	47	9	11	G1/4"
HMVC 56E	11.004"X6F	282.0	363	380	49	9	12	G1/4"
HMVC 60E	11.785"X6F	302.0	386	404	50	10	14	G1/4"
HMVC 64E	12.562"X6F	322.0	409	428	53	10	14	G1/4"
HMVC 68E	13.339"X5F	342.0	430	450	54	10	14	G1/4"
HMVC 72E	14.170"X5F	362.0	455	472	56	10	15	G1/4"
HMVC 76E	14.957"X5F	382.0	476	498	58	11	16	G1/4"
HMVC 80E	15.745"X5F	402.0	499	522	60	11	17	G1/4"
HMVC 84E	16.532"X5F	422.0	522	546	61	11	17	G1/4"
HMVC 88E	17.319"X5F	442.0	543	566	62	12	17	G1/4"
HMVC 92E	18.107"X5F	462.0	565	590	64	12	17	G1/4"
HMVC 96E	18.894"X5F	482.0	587	612	65	12	19	G1/4"
HMVC 100E	19.682"X5F	502.0	609	636	67	12	19	G1/4"
HMVC 106E	20.867"X4F	532.0	645	670	69	13	21	G1/4"
HMVC 112E	22.048"X4F	562.0	678	704	71	13	22	G1/4"
HMVC 120E	23.623"X4F	602.0	721	748	73	13	23	G1/4"

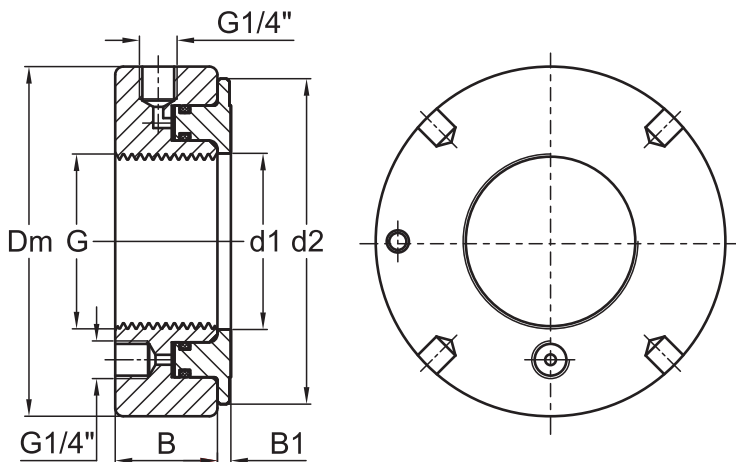
* Example of thread code: 1,967" X 32 F 1,967": thread diameter in decimal inch,
32 F: thread pitch in threads per inch.



Weight (Kg)	Oring	Straight pin spanner	Nylon screw	Reference of hydraulic pump
2.54	ORING 10	CPR 10	PARAF M6x12N	BH 100-0.7
2.75	ORING 11	CPR 10	PARAF M6x12N	BH 100-0.7
2.99	ORING 12	CPR 10	PARAF M6x12N	BH 100-0.7
3.16	ORING 13	CPR 10	PARAF M6x12N	BH 100-0.7
3.33	ORING 14	CPR 10	PARAF M6x12N	BH 100-0.7
3.49	ORING 15	CPR 10	PARAF M6x12N	BH 100-0.7
3.72	ORING 16	CPR 10	PARAF M6x12N	BH 100-0.7
3.82	ORING 17	CPR 10	PARAF M6x12N	BH 100-0.7
4.00	ORING 18	CPR 10	PARAF M6x12N	BH 100-0.7
4.30	ORING 19	CPR 10	PARAF M6x12N	BH 100-0.7
4.40	ORING 20	CPR 12	PARAF M6x12N	BH 100-0.7
4.73	ORING 21	CPR 12	PARAF M6x12N	BH 100-0.7
5.00	ORING 22	CPR 12	PARAF M6x12N	BH 100-0.7
5.35	ORING 24	CPR 12	PARAF M6x12N	BH 100-0.7
5.71	ORING 26	CPR 12	PARAF M6x12N	BH 100-0.7
6.18	ORING 28	CPR 12	PARAF M6x12N	BH 100-0.7
7.17	ORING 30	CPR 12	PARAF M6x12N	BH 100-0.7
7.97	ORING 32	CPR 12	PARAF M6x12N	BH 100-0.7
8.80	ORING 34	CPR 12	PARAF M6x12N	BH 100-0.7
9.40	ORING 36	CPR 12	PARAF M6x12N	BH 100-0.7
10.95	ORING 38	CPR 12	PARAF M6x12N	BH 100-0.7
12.00	ORING 40	CPR 14	PARAF M6x12N	BH 100-0.7
14.06	ORING 44	CPR 14	PARAF M6x12N	BH 100-0.7
16.79	ORING 48	CPR 14	PARAF M6x12N	BH 100-0.7
19.80	ORING 52	CPR 14	PARAF M6x12N	BH 100-0.7
22.00	ORING 56	CPR 14	PARAF M6x17N	BH 100-0.7
26.20	ORING 60	CPR 16	PARAF M6x17N	BH 100-0.7
30.29	ORING 64	CPR 16	PARAF M6x17N	BH 100-0.7
33.09	ORING 68	CPR 16	PARAF M6x17N	BH 100-0.7
36.80	ORING 72	CPR 16	PARAF M6x17N	BH 100-0.7
41.90	ORING 76	CPR 18	PARAF M6x17N	BH 100-0.7
47.35	ORING 80	CPR 18	PARAF M6x17N	BH 100-0.7
51.93	ORING 84	CPR 18	PARAF M6x20N	BH 100-0.7
55.55	ORING 88	CPR 18	PARAF M6x20N	BH 100-0.7
61.35	ORING 92	CPR 18	PARAF M6x20N	BH 100-0.7
65.69	ORING 96	CPR 20	PARAF M6x20N	BH 100-0.7
72.14	ORING 100	CPR 20	PARAF M6x20N	BH 100-0.7
81.60	ORING 106	CPR 20	PARAF M6x20N	BH 100-0.7
90.95	ORING 112	CPR 20	PARAF M6x20N	BH 100-0.7
102.06	ORING 120	CPR 22	PARAF M6x22N	BH 100-0.7

HYDRAULIC NUT HMVC...E THREAD IN INCH

Code	G*	d1 (mm)	d2 (mm)	Dm (mm)	B (mm)	B1 (mm)	Max. axial displacement	Thread for oil injection
HMVC 126E	24.804"X4F	632.0	754	782	74	14	23	G1/4"
HMVC 134E	26.379"X4F	672.0	796	826	75	14	24	G1/4"
HMVC 142E	27.961"X3F	712.0	840	870	78	15	25	G1/4"
HMVC 150E	29.536"X3F	752.0	883	912	79	15	25	G1/4"
HMVC 160E	31.504"X3F	802.0	936	965	80	16	25	G1/4"
HMVC 170E	33.473"X3F	852.0	990	1020	83	16	26	G1/4"
HMVC 180E	35.441"X3F	902.0	1043	1075	86	17	30	G1/4"
HMVC 190E	37.410"X3F	952.0	1097	1126	86	17	30	G1/4"



Weight (Kg)	Oring	Straight pin spanner	Nylon screw	Reference of hydraulic pump
112.04	ORING 126	CPR 22	PARAF M6x22N	BH 100-0.7
123.03	ORING 134	CPR 22	PARAF M6x22N	BH 100-0.7
135.00	ORING 142	CPR 22	PARAF M6x22N	BH 160
150.79	ORING 150	CPR 22	PARAF M6x22N	BH 160
166.34	ORING 160	CPR 22	PARAF M6x22N	BH 160
181.00	ORING 170	CPR 24	PARAF M6x22N	BH 160
205.00	ORING 180	CPR 24	PARAF M6x22N	BH 160
218.00	ORING 190	CPR 24	PARAF M6x22N	BH 160

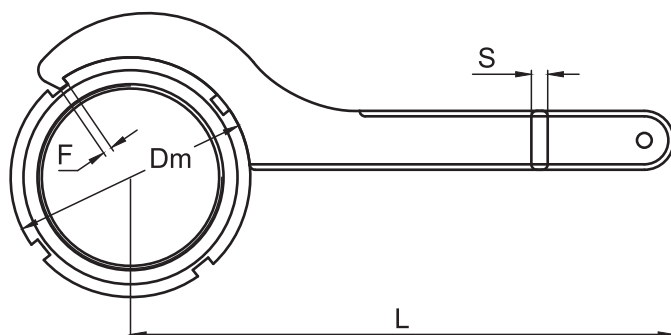
HOOK SPANNER - HN

This is a **tool** used to fasten the nut with slots on the external diameter.

The hook spanner is applied to the correct assembly of sleeves and nuts, because this tool avoids impact through hammer or chisel for lock the nut, one of the most important causes related to the life reduction of bearings.

Material: steel SAE 1045 with heat treatment and finishing with black oxidation.





Code	D_m	F	L	S	Weight
HN 1	22	2.0	120	4.7	0.055
HN 2	25	2.5	120	4.7	0.055
HN 3	28	2.5	120	4.7	0.055
HN 4	32	2.5	120	4.7	0.055
HN 5	38	3.0	150	4.7	0.090
HN 6	45	3.5	180	6.3	0.184
HN 7	52	3.5	180	6.3	0.186
HN 8	58	4.0	210	8.0	0.305
HN 9	65	4.0	210	8.0	0.300
HN 10	70	4.0	210	8.0	0.310
HN 11	75	4.0	210	8.0	0.305
HN 12	80	5.0	240	8.0	0.420
HN 13	85	5.0	240	8.0	0.415
HN 14	92	5.0	240	8.0	0.405
HN 15	98	5.0	240	8.0	0.400
HN 16	105	5.0	240	8.0	0.390
HN 17	110	5.0	280	12.7	1.010
HN 18	120	5.0	280	12.7	0.940
HN 19	125	5.0	280	12.7	0.950
HN 20	130	5.0	280	12.7	0.948
HN 21	140	6.0	320	12.7	1.303
HN 22	145	6.0	320	12.7	1.270
HN 23	148	10.0	394	12.7	1.585
HN 24	153	10.0	416.5	12.7	1.690
HN 25	158	10.0	429	12.7	1.800
HN 26	163	10.0	436.5	12.7	1.785
HN 27	173	12.0	451.5	15.8	2.220
HN 28	178	12.0	464	15.8	2.105
HN 29	188	12.0	484	15.8	2.660
HN 30	193	12.0	496.5	15.8	2.795
HN 31	198	13.0	509	15.8	2.975
HN 32 / HN 33	208	13.0	519	15.8	2.875
HN 34	218	13.0	544	15.8	2.810
HN 36	228	15.0	564	15.8	3.755
HN 38	238	15.0	584	15.8	4.225
HN 40	248	15.0	604	15.8	4.530
HN 44	278	15.0	634	15.8	5.030

This is a device that transfers the liquid contained in the tank to the equipment connected. With this pressure a displacement can be generated very easy to move heavy bodies, when used appropriate hydraulic tools.

APPLICATIONS:

The hydraulic pumps are suitable for use in conjunction with hydraulic nuts and sleeves. In the hydraulic sleeves they have the function of injecting oil into the their channels, whereas in the hydraulic nuts the pump drives the piston for pushing or removing the set (bearing/sleeve). The hydraulic pump has different applications, such as:

- Assembly and disassembly of bearings using the hydraulic nut;
- Disassembly of bearings with tapered bore assembled on hydraulic sleeves;
- Disassembly of bearing with parallel bore assembled on shafts with preparation for oil injection;
- Multiple applications in the field of industrial maintenance, within the limits of maximum pressure of each model of hydraulic pump.



MAIN CHARACTERISTICS OF BGL HYDRAULIC PUMPS

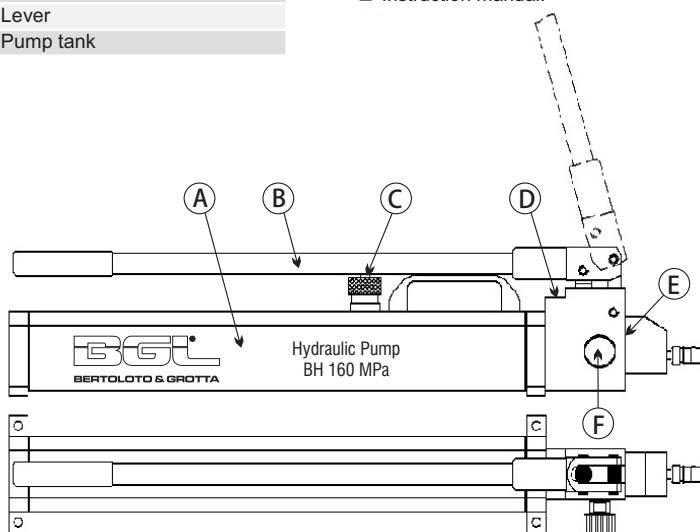
Models BGL Hydraulic Pumps	Working Pressure 'MPa'	Oil Outlet per Cylinder stroke 'ml'		Volume of the Container 'liter'	Volume of Usable 'liter'	Lever Effort 'N'	Measurements of the Pump	Outlet Port 'Quick Engagement'	Total Weight	
		1 ^a	2 ^a							
BH 100-0.7	100	32	2,5	0,9	0,7	300	470x120x200	1/4" BSP	13,4	
BH 160	160	32	1,6	2,2	1,9	460	700x120x260	1/4" BSP	17,2	
BH 160-4.8	160	32	1,6	4,8	4,1	460	680x220x260	1/4" BSP	24,6	

TABLE OF COMPONENTS

Item	Quantity	Description
F	01	By-pass valve
E	01	Oil outlet with pressure
D	01	Release valve of max. pressure
C	01	Oil inlet
B	01	Lever
A	01	Pump tank

BGL HYDRAULIC PUMPS COME WITH

- 3-Meter high pressure hose; MBH 160;
- Manometer MPA and PSI scale; MBH 100 or 160;
- Quick outlet engagement 1/4" BSP; Niple ER;
- Steel case to store the Pump;
- Instruction manual.



SPARE ACCESSORIES

Code	Description
MBH 160	Hydraulic hose for Pump 100 to 160 MPa
MABH 100	Manometer Hydraulic Pump 100 MPa
MABH 160	Manometer Hydraulic Pump 160 MPa
NIPLE 1/4 BSP	Parallel niple 1/4" BSP
NIPLE ER	Quick engagement niple 1/4" BSP

Application

Conic Bearings	With Hydraulic Nut	With Hydraulic Sleeves
1:12	HMV 10E to 134E	Assembles and Disassembles all Hydraulic Sleeves
1:30	HMV 10E to 100E	
1:12	HMV 10E to 212E	
1:30	HMV 10E to 150E	
1:12 e 1:30	All Sizes	

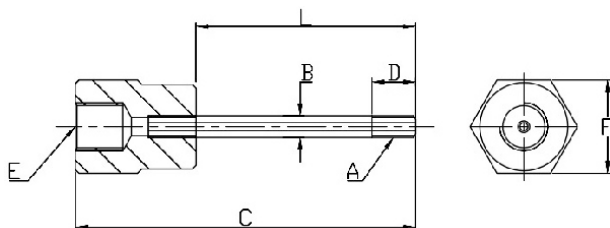
Please check on the table below the Hydraulic Pump best suited for your requirements, taking into consideration the required pressure and quantity of oil.

Ask for codes **BH 100-0.7**, **BH 160** and **BH 160-4.8**

REMARK

Recommended hydraulic oil 68 HPL.

Used in hydraulic sleeves provided with channels of oil injection. This makes easy the disassembling of the set, mainly after long time period of use. The sleeves have narrow walls and, when assembled in a distance from the shaft face, they need a fine connection to correctly connect with the hydraulic pump. For these needs, the BGL has the extension tubes adequate of each possibility of oil inlet in the sleeves, being M4, M6, G1/8 and G1/4, and at the other thread end 1/4 BSP for connecting with the hose of the outlet pump.



**Max. work
pressure
(MPa)**

Code	A	B (mm)	C (mm)	D (mm)	E	F (mm)	L (mm)	Max. work pressure (MPa)
TE M4 01	M4 x 0.7	4	94	9	BSP 1/4	25,4	61	175
TE M6 01	M6 x 1	6	91	12	BSP 1/4	25,4	58	180
TE M6 02	M6 x 1	6	321	12	BSP 1/4	25,4	288	180
TE M8 01	M8 x 1,25	8	318	15	BSP 1/4	25,4	285	220
TE 1/8BSP 01	1/8 x 28 F BSP	9,6	318	15	BSP 1/4	25,4	285	250
TE 1/4BSP 01	1/4 x 19 F BSP	13	416	17	BSP 1/4	25,4	383	320

The BGL training kit has, all in one case, diverse parts for a complete training. This kit makes it possible to perform practical experiments of assembly and disassembly of adapter sleeves as well as disassembly of self-aligning ball bearing and spherical roller bearing with tapered bore.



TRAINING KIT COMPONENTS

- | | |
|------------------------------------|--------------------------------|
| Adapter Sleeve; | Impact Puller; |
| Allen Key 6 mm; | Lock Washers; |
| Assembly Instructions for the HMVE | Locknuts; |
| Hydraulic Nut; | Pachymeter 150 mm; |
| Ball Hammer 400 g; | Pin Punch 5 mm; |
| Comparative Clock; | Pin Spanner, Straight; |
| Cup Tool for Disassembly; | Printed Assembly Instructions; |
| Disassembly Sleeve; | Printed Catalogue; |
| Extension Tube M6 x 1/4 BSP 60 mm; | Screwdriver 3/16 x 3; |
| Feeler Gauge 0,02-1,00 mm 17L; | Spacer Wedge; |
| Fixed Spanner 15/16 x 1; | Spacer Ring 55 mm; |
| Fixed Spanner 19 x 22; | Technical Videos; |
| Fixing Clamps for the Base; | Training Base; |
| Hook Spanner Wrenches; | Training Shaft 55 mm; |
| Hydraulic Adapter Sleeve; | Training Suitcase. |
| Hydraulic Nut; | |

EXECUTABLE ASSEMBLIES WITH TRAINING KIT BGL (www.bgl.com.br/en/kit-tr.htm)

Videos in www.bgl.com.br/en/treinamento.htm

01. **Assembly of adapter sleeve** on self-aligning ball bearing with tapered bore with hook spanner. (Watch Video 01)

02. **Assembly of adapter sleeve** on self-aligning ball bearing with tapered bore with hydraulic nut. (Watch Video 02)

03. **Assembly of adapter sleeve** on spherical roller bearing with tapered bore with hook spanner. (Watch Video 03)

04. **Assembly of adapter sleeve** on spherical roller bearing with tapered bore with hook spanner. (Watch Video 04)

05. **Assembly of hydraulic adapter sleeve** on spherical roller bearing with tapered bore with hydraulic nut. (Watch Video 05)

06. **Assembly of withdrawal sleeve** on self-aligning ball bearings with tapered bore with hook spanner. (Watch Video 06)

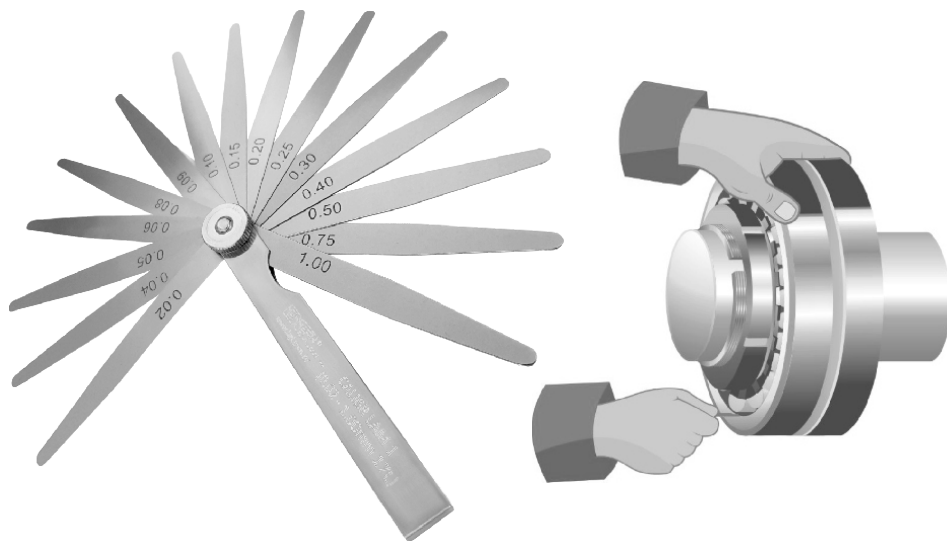
07. **Assembly of withdrawal sleeve** on spherical roller bearing with tapered bore with hook spanner. (Watch Video 08)

08. **Disassembly of adapter sleeve** on self-aligning ball bearing with tapered bore with impact tool. (Watch Video 11)

09. **Disassembly of hydraulic adapter sleeve** on spherical roller bearing with tapered bore with injection of oil. (Watch Video 12)

10. **Disassembly of withdrawal sleeve** on self-aligning ball bearing with tapered bore with hook spanner. (Watch Video 14)

11. **Disassembly of hydraulic withdrawal sleeve** on spherical roller bearing with tapered bore. (Watch Video 16)



Developed to measure slack during adjustment of spherical roller bearings.

- 17 slides with a thickness of 0.02 mm to 1.00 mm;
- Blades with 100 mm length;
- Supplied with protective steel cage;
- Plastic packaging with transparent display.

HIGH PRECISION MEASUREMENTS!

Watch **videos 03, 04, 05, 08, 09** and 10 at www.bgl.com.br/en/treinamento.htm and learn how to use this measuring tool.



TABLE REDUCTION OF RADIAL CLEARANCE

To ASSEMBLY SPHERICAL ROLLER BEARING with tapered bore with ADAPTER or WITHDRAWAL SLEEVE

Nominal Measure Internal diameter (d) (Bearing Bore)	Bearing Radial Clearance Before Assembly												Reduction of Bearing Radial Clearance				Axial Displacement "S"			
	Clearance Group												C5				C4			
	C2		Normal		C3		C4		C5		C6		min.	max.	min.	max.	Axial Displacement Taper 1:12	min.	max.	Axial Displacement Taper 1:30
Greater than	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.
Up to including	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
24	30	0.020	0.030	0.040	0.040	0.055	0.055	0.075	-	-	-	-	0.010	0.015	0.020	0.290	-	-	-	-
30	40	0.025	0.035	0.060	0.065	0.065	0.085	0.085	0.085	0.105	0.085	0.105	0.015	0.020	0.030	0.350	-	-	-	-
40	50	0.030	0.045	0.060	0.060	0.080	0.080	0.100	0.100	0.130	0.080	0.130	0.020	0.025	0.030	0.440	-	-	-	-
50	65	0.040	0.055	0.075	0.075	0.095	0.095	0.120	0.120	0.150	0.095	0.150	0.025	0.035	0.040	0.540	1.150	1.350	-	-
65	80	0.050	0.070	0.095	0.095	0.120	0.120	0.150	0.150	0.200	0.120	0.200	0.035	0.040	0.050	0.850	1.400	1.850	-	-
80	100	0.055	0.080	0.110	0.110	0.140	0.140	0.180	0.180	0.230	0.140	0.230	0.040	0.050	0.060	0.960	1.650	2.000	-	-
100	120	0.065	0.100	0.100	0.135	0.135	0.170	0.170	0.220	0.280	0.170	0.280	0.050	0.060	0.070	0.950	2.000	2.350	-	-
120	140	0.080	0.120	0.120	0.160	0.160	0.200	0.200	0.260	0.330	0.200	0.330	0.060	0.075	0.085	1.100	2.300	2.800	-	-
140	160	0.090	0.130	0.130	0.180	0.180	0.230	0.230	0.300	0.380	0.230	0.380	0.070	0.085	0.100	1.300	2.650	3.200	-	-
160	180	0.100	0.140	0.140	0.200	0.200	0.260	0.260	0.340	0.430	0.260	0.430	0.080	0.095	0.120	1.450	3.000	3.600	-	-
180	200	0.110	0.160	0.160	0.220	0.220	0.290	0.290	0.370	0.470	0.290	0.470	0.090	0.105	0.130	1.600	3.300	4.000	-	-
200	225	0.120	0.180	0.180	0.250	0.250	0.320	0.320	0.410	0.520	0.320	0.520	0.100	0.120	0.145	1.800	3.700	4.450	-	-
225	250	0.140	0.200	0.200	0.270	0.270	0.350	0.350	0.450	0.570	0.350	0.570	0.110	0.130	0.160	1.950	4.000	4.850	-	-
250	280	0.150	0.220	0.220	0.300	0.300	0.390	0.390	0.490	0.620	0.390	0.620	0.120	0.150	1.800	2.150	4.500	5.400	-	-
280	315	0.170	0.240	0.240	0.330	0.330	0.430	0.430	0.540	0.680	0.430	0.680	0.135	0.165	2.000	2.400	4.950	6.000	-	-
315	355	0.190	0.270	0.270	0.360	0.360	0.470	0.470	0.590	0.740	0.470	0.740	0.150	0.180	2.150	2.650	5.400	6.600	-	-
355	400	0.210	0.300	0.300	0.400	0.400	0.520	0.520	0.650	0.820	0.520	0.820	0.170	0.210	2.500	3.000	6.200	7.600	-	-
400	450	0.230	0.330	0.330	0.440	0.440	0.570	0.570	0.720	0.910	0.570	0.910	0.195	0.235	2.800	3.400	7.000	8.500	-	-
450	500	0.260	0.370	0.370	0.490	0.490	0.630	0.630	0.790	1.000	0.630	1.000	0.215	0.265	3.100	3.800	7.800	9.500	-	-
500	560	0.290	0.410	0.410	0.540	0.540	0.680	0.680	0.870	1.100	0.680	1.100	0.245	0.300	3.400	4.100	8.400	10.300	-	-
560	630	0.320	0.460	0.460	0.600	0.600	0.760	0.760	0.980	1.230	0.760	1.230	0.275	0.340	3.800	4.650	9.500	11.600	-	-
630	710	0.350	0.510	0.510	0.670	0.670	0.850	0.850	1.090	1.360	0.850	1.360	0.310	0.380	4.250	5.200	10.600	13.000	-	-
710	800	0.390	0.570	0.570	0.750	0.750	0.960	0.960	1.220	1.500	0.960	1.500	0.350	0.425	4.750	5.800	11.900	14.500	-	-
800	900	0.440	0.640	0.640	0.840	0.840	1.070	1.070	1.370	1.690	1.070	1.690	0.395	0.480	5.400	6.600	13.500	16.400	-	-
900	1.000	0.490	0.710	0.710	0.930	0.930	1.190	1.190	1.520	1.860	1.190	1.860	0.440	0.535	6.000	7.300	15.000	18.300	-	-
1.000	1.120	0.530	0.770	0.770	1.030	1.030	1.300	1.300	1.670	2.050	1.300	2.050	0.490	0.600	6.700	8.000	16.000	19.500	-	-
1.120	1.250	0.570	0.830	0.830	1.120	1.120	1.420	1.420	1.830	2.250	1.420	2.250	0.550	0.670	7.100	8.700	17.800	21.700	-	-
1.250	1.400	0.620	0.910	0.910	1.230	1.230	1.560	1.560	2.000	2.450	2.000	2.450	0.610	0.750	8.000	9.700	19.900	24.300	-	-
1.400	1.600	0.680	1.000	1.000	1.350	1.350	1.720	1.720	2.200	2.700	2.200	2.700	0.700	0.850	9.100	11.100	22.700	27.700	-	-
1.600	1.800	0.750	1.110	1.110	1.500	1.500	1.920	1.920	2.400	2.950	2.400	2.950	0.790	0.960	10.200	12.500	25.600	31.200	-	-

Note: Valid only for solid steel axes in general applications. The axial displacement differs slightly between bearing sets.



Do the online clearance calculation on www.bgl.com.br/en/calculo_reducao

The values listed must be used only as a reference. The final conference must be done with Feeler Gauge.

For assembly or disassembly of Toroidal Roller Bearings CARB, ask for the specific Table for Reduction of Radial Clearance Calculation.

Watch the detailed scripts on www.bgl.com.br/en/treinamento.htm

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Version July 2018

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