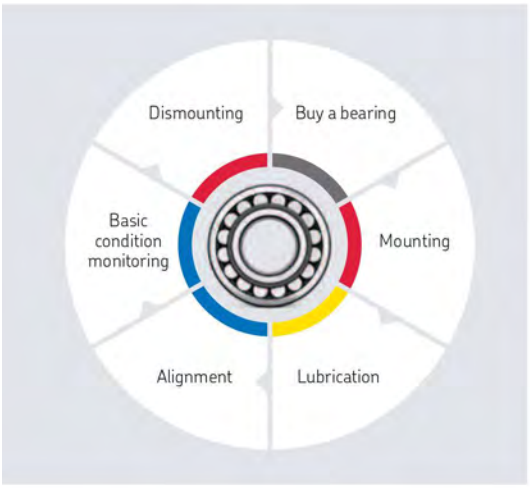
SKF Maintenance and Lubrication Products

Hydraulic tools



Hydraulic tools

Mounting and dismounting bearings and similar components using hydraulic techniques

SKF pioneered the use of hydraulic techniques for mounting bearings and associated items many years ago. Nowadays, the SKF hydraulic techniques are often the preferred mounting and dismounting method for larger bearings as well as other components. These techniques have helped to simplify bearing arrangements and facilitate correct and easy mounting. Using SKF hydraulic techniques for bearing or component dismounting reduces the risk of damaging the item or its seating. Additionally, greater withdrawal forces can be applied with less effort and maximum control, allowing quick and safe dismounting.

With the SKF hydraulic mounting and dismounting techniques, you can achieve:

- More control, allowing precision, accuracy and repeatability to be maintained
- Lower risk of damaging bearings, components and shafts
- Less manual effort
- Greater operator safety

Easy way to mount and dismount bearings and components

SKF Oil Injection Method

The SKF Oil Injection Method allows bearings and other components with an interference fit to be fitted in a safe, controllable and rapid manner. The method does not require keyways to be machined on the shaft, saving valuable time and money in materials and production. Interference fits have long been recognised for their reliability in transmitting large torsional loads. Very often, interference fits offer the only solution when connecting hubs to shafts with intermittent or fluctuating loads.

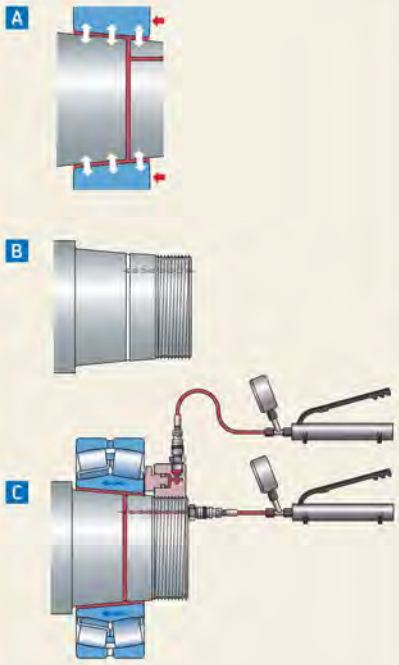
Easy, quick and effortless bearing dismounting

When using the SKF Oil Injection Method, the mating surfaces are separated by a thin film of oil injected under high pressure, thereby virtually eliminating the friction between them. The method is versatile as it can be used for dismounting bearings and other components mounted on either cylindrical or tapered seatings. When dismounting items mounted on cylindrical seatings, the injected oil can reduce the required pulling forces by up to 90%.

When using the SKF Oil Injection Method to dismount bearings and components mounted on tapered seatings, the interference fit is completely overcome by the injected oil. The item is then ejected from the seating with great force, making the use of a puller unnecessary. In this case, a stop-nut must be used to control the ejection of the item. For bearing mounting and dismounting applications, the required oil pressure is typically less than 100 MPa *(14 500psi)* and SKF hydraulic pumps can usually be used. However for applications such as couplings, gear and railway wheels, pressures of 300 MPa *(43 500 psi)* are more typical and SKF oil injectors are preferred.

Mounting

Tapered shafts



A The concept

Injecting oil between two tapered surfaces creates a thin oil film, which reduces the friction between them, thereby significantly reducing the mounting force required. The thin oil film also minimises the risk of metallic contact when mounting, reducing the risk of component damage.

B The preparation

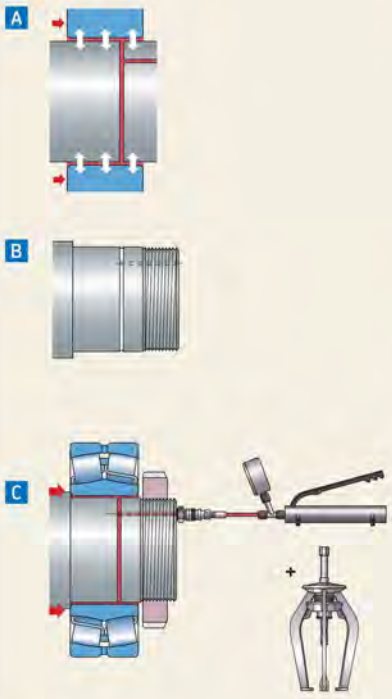
During manufacture, the shafts are prepared with oil ducts and grooves. For technical information on how to prepare the shafts, consult an SKF application engineer.

C The action

Bearings are mounted by pushing them up the shaft with the aid of an SKF HMV .. E nut. The force to mount the bearing is reduced if oil is injected between the shaft and the bearing. This is often done with larger size bearings.

Dismounting

Cylindrical shafts



A The concept

By injecting oil of a certain viscosity between two shrink fitted surfaces, the mating surfaces will become separated by a thin oil film. The dismounting force required is thus greatly reduced. The thin oil film also minimises the risk of metallic contact when dismounting, reducing the risk of component damage.

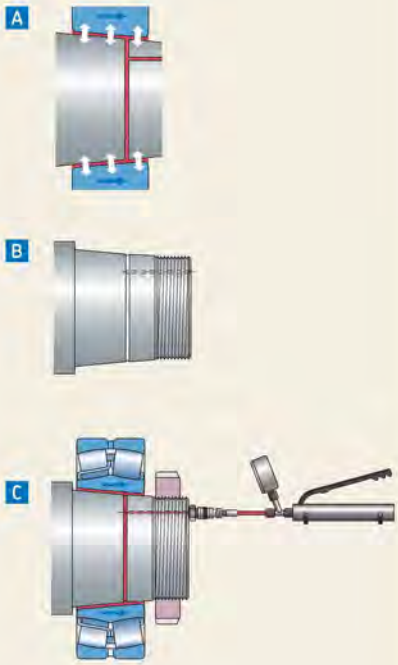
B The preparation

During manufacture, the shafts are prepared with oil ducts and grooves. For technical information on how to prepare the shafts, consult an SKF application engineer.

C The action

Dismounting the bearing is made easier by pumping oil under pressure between the mating surfaces. Once the oil pressure has built up, the component can be removed from the shaft with a minimum of effort.

Tapered shafts



A The concept

Injecting the oil between two tapered surfaces will create a reaction force which could be quite substantial as the oil will also act as a "hydraulic cylinder" which can push the outer component off.

B The preparation

During manufacture, the shafts are prepared with oil ducts and grooves. For technical information on how to prepare the shafts, consult an SKF application engineer.

C The action

Bearings are dismounted by injecting oil between the mating surfaces and when sufficient pressure is reached, the bearing will be pushed off. A nut is required to keep the bearing from sliding off the shaft.

Hydraulic tools

Accurate mounting of SKF spherical roller and CARB toroidal roller bearings on tapered shafts and sleeves

SKF Drive-up Method

The SKF Drive-up Method is a well-proven method, unique to SKF, of accurately achieving the adjustment of SKF spherical roller and CARB toroidal roller bearings mounted on tapered seatings. The method incorporates the use of an SKF HMV ..E hydraulic nut fitted with a dial indicator, and a high accuracy digital pressure gauge, mounted on the selected pump.

The correct fit is achieved by controlling the axial drive-up of the bearing from a pre-determined starting position, defined by the pressure in the SKF HMV..E hydraulic nut. The second stage is monitored by driving the bearing up a calculated distance on the taper seating.
The starting position pressure and the drive-up distance for many SKF bearings can be determined by using the SKF Drive-up Method PC program, available at skf.com or by downloading the iOS or Andoid app for smartphones and tablets. In addition, SKF's unique information service for mounting and dismount bearings, skf.com/mount, also features the SKF Drive-up Method.

- More accurate and easier than using feeler gauges
- Greatly reduces the time to mount spherical roller and CARB toroidal roller bearings
- The only suitable way to mount SKF sealed spherical roller and CARB bearings

The SKF Drive-up Method

Download on the App Store

GET IT ON Google Play

Products for the SKF Drive-up Method

Designation	Description
HMV ..E (e.g. HMV 54E)	Metric thread hydraulic nut
HMVC ..E (e.g. HMVC 54E)	Inch thread hydraulic nut
729124 DU (for nuts ≤ HMV 54E)	Pump with digital gauge (MPa/psi)
TMJL 100DU (for nuts ≤ HMV 92E)	Pump with digital gauge (MPa/psi)
TMJL 50DU (all sizes HMV ..E nuts)	Pump with digital gauge (MPa/psi)
THGD 100	Digital gauge only (MPa/psi)
TMCD 10R	Horizontal dial indicator (0–10 mm)
TMCD 5P	Vertical dial indicator (0–5 mm)
TMCD 1/2R	Horizontal dial indicator (0–0.5 in.)

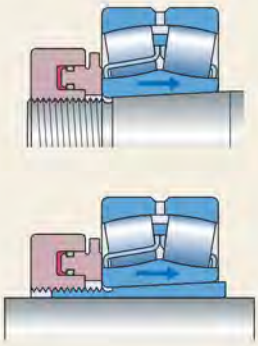
Technical data – Hydraulic pumps

Designation	729124 DU	TMJL 100DU	TMJL 50DU
Max. pressure	100 MPa *(14 500 psi)*	100 MPa *(14 500 psi)*	50 MPa *(7 250 psi)*
Volume/stroke	0,5 cm^3 *(0.03 $in.^3$)*	1,0 cm^3 *(0.06 $in.^3$)*	3,5 cm^3 *(0.21 $in.^3$)*
Oil container capacity	250 cm^3 *(15 $in.^3$)*	800 cm^3 *(48 $in.^3$)*	2 700 cm^3 *(165 $in.^3$)*
Digital pressure gauge unit	MPa/psi	MPa/psi	MPa/psi

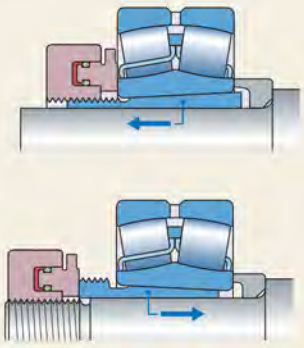
Note: All above pumps are supplied complete with digital pressure gauge, high pressure hose and quick connect coupling.

Step by step procedure

One sliding surface



Two sliding surfaces



1. Determine whether one or two surfaces slide during mounting; see figures.
2. Lightly oil all mating surfaces with a thin oil, e.g. SKF LHMF 300, and carefully place the bearing on the shaft.
3. Use the SKF Drive-up Method program or app or skf.com/mount to calculate the initial pressure value and required drive-up distance appropriate to the bearing and the mounting arrangement.
4. Drive the bearing up to the starting position by applying the required hydraulic nut pressure. The pressure is monitored on the digital pressure gauge fitted to the appropriate pump.
5. Drive the bearing up the taper by the calculated distance as given by the program, app or skf.com/mount. The axial drive-up is best monitored by a dial indicator. The SKF Hydraulic Nut HMV ..E is prepared for dial indicators. The bearing is now mounted with a suitable interference on the shaft and a suitable residual clearance.

For use with previous generation of SKF HMV(C) hydraulic nuts

SKF Hydraulic Nut Drive-up Adapter HMVA 42/200

The SKF Drive-up Method is the preferred method for mounting SKF spherical roller and CARB toroidal roller bearings on tapered seatings. An adapter, used in conjunction with an SKF Dial Indicator, the adapter allows the previous generation of SKF HMV nuts to be used with the SKF Drive-up Method. The adapter can be used with nuts from size SKF HMV(C) 42 to HMV(C) 200. The adapter is not required for the current generation of SKF HMV(C) ..E nuts.

- One adapter suits the previous generation nuts from SKF HMV(C) 42 up to 200
- Rugged construction
- Easy to attach to the SKF HMV nut using strong magnets
- Used in conjunction with SKF dial indicators

Easy application of high drive-up forces

Hydraulic Nuts HMV ..E series

Mounting bearings on tapered seatings can be a difficult and time-consuming job. Using an SKF Hydraulic Nut facilitates easy and quick application of the high drive-up forces required for mounting bearings. Dismounting bearings mounted on either adapter or withdrawal sleeves is also often a difficult and time-consuming job. These problems can be reduced with the use of an SKF Hydraulic Nut. Oil is pumped into the nut and the piston is pushed out with a force, which is sufficient to free the sleeve. All SKF HMV ..E nuts are supplied with a quick connection coupling to fit the SKF hydraulic pumps.

- Wide size range, covering shaft diameters from 50 to 1 000 mm as standard
- Full range of inch threads available, series HMVC ..E from 1.967 up to 37.410 in.
- Quick connection coupling can be fitted on the face or side of the nut, allowing the nut to be used in areas where space is limited
- A spare set of piston seals and maintenance kit is supplied as standard
- To assist nut threading, a tube of lubricant is supplied with all nuts of size HMV(C) 54E and larger
- To facilitate easy nut threading, all nuts from size HMV(C) 54E are equipped with two tommy bars and four mating holes on their front face
- Nuts from size HMV(C) 94E are equipped with eyebolts, allowing easy handling
- Nuts from size HMV(C) 94E have the starting position of the thread indicated, facilitating easy matching of thread positions on both the nut and mating thread
- Special threads and sizes available on request

Maximum working oil pressure with permitted piston displacement of HMV(C)...E nuts:

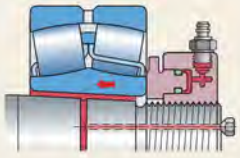
- HMV(C) 60E and smaller
  80 MPa *(11 600 psi)*
- HMV(C) 62-100E
  40 MPa *(5 800 psi)*
- HMV(C) 102E and larger
  25 MPa *(3 600 psi)*

Technical data – HMV E series (metric)

Designation	HMV E
Thread form	
HMV 10E – HMV 40E	ISO 965/111-1980 tolerance class 6H
HMV 41E – HMV 200E	ISO 2901-1977 tolerance class 7H
Mounting fluid (recommended)	LHMF 300
Recommended pumps	
HMV 10E – HMV 54E	729124*/TMJL 100*/728619 E/TMJL 50*
HMV 56E – HMV 92E	TMJL 100*/728619 E/TMJL 50*
HMV 94E – HMV 200E	728619 E/TMJL 50*
Quick connection nipple	729832 A (included)
Other types available	
Inch series nuts	HMVC E series

* Also available with digital pressure gauge (see page 71)

Mounting



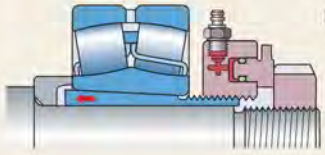
HMV ..E nut for driving the bearing onto a tapered seating.

HMV ..E nut screwed onto the shaft for driving in a withdrawal sleeve.

HMV ..E nut for driving the bearing onto an adapter sleeve.

HMV ..E nut and special stop nut for driving in a withdrawal sleeve.

Dismounting

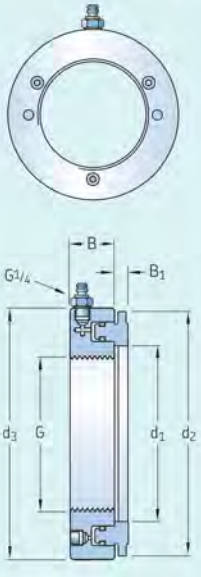


HMV ..E nut and stop ring in position to press an adapter sleeve free.

HMV ..E nut used to free a withdrawal sleeve.

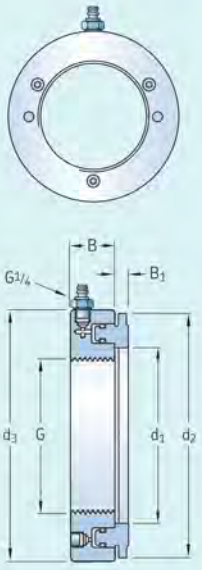
Ordering details and dimensions – HMV E series (metric)

Designation	G	d_1	d_2	d_3	B	B_1	Permitted piston displacement	Piston area	Weight
	thread	mm	mm	mm	mm	mm	mm	mm^2	kg
HMV 10E	M50×1,5	50,5	104	114	38	4	5	2 900	2,70
HMV 11E	M55×2	55,5	109	120	38	4	5	3 150	2,75
HMV 12E	M60×2	60,5	115	125	38	5	5	3 300	2,80
HMV 13E	M65×2	65,5	121	130	38	5	5	3 600	3,00
HMV 14E	M70×2	70,5	127	135	38	5	5	3 800	3,20
HMV 15E	M75×2	75,5	132	140	38	5	5	4 000	3,40
HMV 16E	M80×2	80,5	137	146	38	5	5	4 200	3,70
HMV 17E	M85×2	85,5	142	150	38	5	5	4 400	3,75
HMV 18E	M90×2	90,5	147	156	38	5	5	4 700	4,00
HMV 19E	M95×2	95,5	153	162	38	5	5	4 900	4,30
HMV 20E	M100×2	100,5	158	166	38	6	5	5 100	4,40
HMV 21E	M105×2	105,5	163	172	38	6	5	5 300	4,65
HMV 22E	M110×2	110,5	169	178	38	6	5	5 600	4,95
HMV 23E	M115×2	115,5	174	182	38	6	5	5 800	5,00
HMV 24E	M120×2	120,5	179	188	38	6	5	6 000	5,25
HMV 25E	M125×2	125,5	184	192	38	6	5	6 200	5,35
HMV 26E	M130×2	130,5	190	198	38	6	5	6 400	5,65
HMV 27E	M135×2	135,5	195	204	38	6	5	6 600	5,90
HMV 28E	M140×2	140,5	200	208	38	7	5	6 800	6,00
HMV 29E	M145×2	145,5	206	214	39	7	5	7 300	6,50
HMV 30E	M150×2	150,5	211	220	39	7	5	7 500	6,60
HMV 31E	M155×3	155,5	218	226	39	7	5	8 100	6,95
HMV 32E	M160×3	160,5	224	232	40	7	6	8 600	7,60
HMV 33E	M165×3	165,5	229	238	40	7	6	8 900	7,90



Ordering details and dimensions – HMV E series (metric)

Designation	G	d_1	d_2	d_3	B	B_1	Permitted piston displacement	Piston area	Weight
	thread	mm	mm	mm	mm	mm	mm	mm^2	
HMV 34E	M170×3	170,5	235	244	41	7	6	9 400	8,40
HMV 36E	M180×3	180,5	247	256	41	7	6	10 300	9,15
HMV 38E	M190×3	191	259	270	42	8	7	11 500	10,5
HMV 40E	M200×3	201	271	282	43	8	8	12 500	11,5
HMV 41E	Tr205×4	207	276	288	43	8	8	12 800	12,0
HMV 42E	Tr210×4	212	282	294	44	8	9	13 400	12,5
HMV 43E	Tr215×4	217	287	300	44	8	9	13 700	13,0
HMV 44E	Tr220×4	222	293	306	44	8	9	14 400	13,5
HMV 45E	Tr225×4	227	300	312	45	8	9	15 200	14,5
HMV 46E	Tr230×4	232	305	318	45	8	9	15 500	14,5
HMV 47E	Tr235×4	237	311	326	46	8	10	16 200	16,0
HMV 48E	Tr240×4	242	316	330	46	9	10	16 500	16,0
HMV 50E	Tr250×4	252	329	342	46	9	10	17 600	17,5
HMV 52E	Tr260×4	262	341	356	47	9	11	18 800	19,0
HMV 54E	Tr270×4	272	352	368	48	9	12	19 800	20,5
HMV 56E	Tr280×4	282	363	380	49	9	12	21 100	22,0
HMV 58E	Tr290×4	292	375	390	49	9	13	22 400	22,5
HMV 60E	Tr300×4	302	386	404	51	10	14	23 600	25,5
HMV 62E	Tr310×5	312	397	416	52	10	14	24 900	27,0
HMV 64E	Tr320×5	322	409	428	53	10	14	26 300	29,5
HMV 66E	Tr330×5	332	419	438	53	10	14	27 000	30,0
HMV 68E	Tr340×5	342	430	450	54	10	14	28 400	31,5
HMV 69E	Tr345×5	347	436	456	54	10	14	29 400	32,5
HMV 70E	Tr350×5	352	442	464	56	10	14	29 900	35,0
HMV 72E	Tr360×5	362	455	472	56	10	15	31 300	35,5
HMV 73E	Tr365×5	367	460	482	57	11	15	31 700	38,5
HMV 74E	Tr370×5	372	466	486	57	11	16	32 800	39,0
HMV 76E	Tr380×5	382	476	498	58	11	16	33 500	40,5
HMV 77E	Tr385×5	387	483	504	58	11	16	34 700	41,0
HMV 80E	Tr400×5	402	499	522	60	11	17	36 700	45,5
HMV 82E	Tr410×5	412	510	534	61	11	17	38 300	48,0
HMV 84E	Tr420×5	422	522	546	61	11	17	40 000	50,0
HMV 86E	Tr430×5	432	532	556	62	11	17	40 800	52,5
HMV 88E	Tr440×5	442	543	566	62	12	17	42 500	54,0
HMV 90E	Tr450×5	452	554	580	64	12	17	44 100	57,5
HMV 92E	Tr460×5	462	565	590	64	12	17	45 100	60,0
HMV 94E	Tr470×5	472	576	602	65	12	18	46 900	62,0
HMV 96E	Tr480×5	482	587	612	65	12	19	48 600	63,0
HMV 98E	Tr490×5	492	597	624	66	12	19	49 500	66,0
HMV 100E	Tr500×5	502	609	636	67	12	19	51 500	70,0
HMV 102E	Tr510×6	512	624	648	68	12	20	53 300	74,0
HMV 104E	Tr520×6	522	634	658	68	13	20	54 300	75,0
HMV 106E	Tr530×6	532	645	670	69	13	21	56 200	79,0
HMV 108E	Tr540×6	542	657	682	69	13	21	58 200	81,0
HMV 110E	Tr550×6	552	667	693	70	13	21	59 200	84,0
HMV 112E	Tr560×6	562	678	704	71	13	22	61 200	88,0
HMV 114E	Tr570×6	572	689	716	72	13	23	63 200	91,0
HMV 116E	Tr580×6	582	699	726	72	13	23	64 200	94,0
HMV 120E	Tr600×6	602	721	748	73	13	23	67 300	100
HMV 126E	Tr630×6	632	754	782	74	14	23	72 900	110
HMV 130E	Tr650×6	652	775	804	75	14	23	76 200	115
HMV 134E	Tr670×6	672	796	826	76	14	24	79 500	120
HMV 138E	Tr690×6	692	819	848	77	14	25	84 200	127
HMV 142E	Tr710×7	712	840	870	78	15	25	87 700	135
HMV 150E	Tr750×7	752	883	912	79	15	25	95 200	146
HMV 160E	Tr800×7	802	936	965	80	16	25	103 900	161
HMV 170E	Tr850×7	852	990	1 020	83	16	26	114 600	181
HMV 180E	Tr900×7	902	1 043	1 075	86	17	30	124 100	205
HMV 190E	Tr950×8	952	1 097	1 126	86	17	30	135 700	218
HMV 200E	Tr1000×8	1 002	1 150	1 180	88	17	34	145 800	239

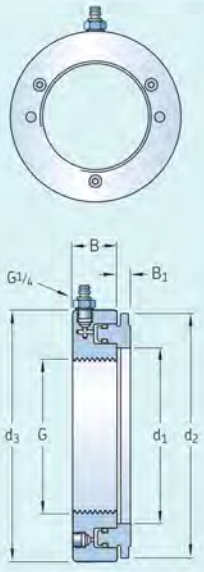


Technical data – HMVC E series (inch)

Designation	HMVC E
Thread form	
HMVC 10E – HMVC 64E	American National Form Threads Class 3
HMVC 68E – HMVC 190E	ACME General Purpose Threads Class 3 G
Mounting fluid	LHMF 300
Recommended pumps	
HMVC 10E – HMVC 52E	729124 / TMJL 100 / 728619 E / TMJL 50
HMVC 56E – HMVC 92E	TMJL 100 / 728619 E / TMJL 50
HMVC 94E – HMVC 190E	728619 E / TMJL 50
Quick connection nipple	729832 A (included)
Other types available	
Inch series nuts	HMVC E series

Ordering details and dimensions – HMVC E series (inch)

Designation	G	Pitch diameter	Threads	d_1	d_2	d_3	B	B_1	Permitted piston displacement	Piston area	Weight
	in.	in.		in.	in.	in.	in.	in.	in.	in.^{2}	lb
HMVC 10E	1.967	1.9309	18	2.0	4.1	4.5	1.5	0.16	0.20	4.5	6.0
HMVC 11E	2.157	2.1209	18	2.2	4.3	4.7	1.5	0.16	0.20	4.9	6.1
HMVC 12E	2.360	2.3239	18	2.4	4.5	4.9	1.5	0.20	0.20	5.1	6.2
HMVC 13E	2.548	2.5119	18	2.6	4.8	5.1	1.5	0.20	0.20	5.6	6.6
HMVC 14E	2.751	2.7149	18	2.8	5.0	5.3	1.5	0.20	0.20	5.9	7.1
HMVC 15E	2.933	2.8789	12	3.0	5.2	5.5	1.5	0.20	0.20	6.2	7.5
HMVC 16E	3.137	3.0829	12	3.2	5.4	5.7	1.5	0.20	0.20	6.5	8.2
HMVC 17E	3.340	3.2859	12	3.4	5.6	5.9	1.5	0.20	0.20	6.8	8.3
HMVC 18E	3.527	3.4729	12	3.6	5.8	6.1	1.5	0.20	0.20	7.3	8.8
HMVC 19E	3.730	3.6759	12	3.8	6.0	6.4	1.5	0.20	0.20	7.6	9.5
HMVC 20E	3.918	3.8639	12	4.0	6.2	6.5	1.5	0.24	0.20	7.9	9.7
HMVC 21E	4.122	4.0679	12	4.2	6.4	6.8	1.5	0.24	0.20	8.2	10.3
HMVC 22E	4.325	4.2709	12	4.4	6.7	7.0	1.5	0.24	0.20	8.7	10.9
HMVC 24E	4.716	4.6619	12	4.7	7.0	7.4	1.5	0.24	0.20	9.3	11.6
HMVC 26E	5.106	5.0519	12	5.1	7.5	7.8	1.5	0.24	0.20	9.9	12.5
HMVC 28E	5.497	5.4429	12	5.5	7.9	8.2	1.5	0.28	0.20	10.5	13.2
HMVC 30E	5.888	5.8339	12	5.9	8.3	8.7	1.5	0.28	0.20	11.6	14.6
HMVC 32E	6.284	6.2028	8	6.3	8.8	9.1	1.6	0.28	0.24	13.3	16.8
HMVC 34E	6.659	6.5778	8	6.7	9.3	9.6	1.6	0.28	0.24	14.6	18.5
HMVC 36E	7.066	6.9848	8	7.1	9.7	10.1	1.6	0.28	0.24	16.0	20.2
HMVC 38E	7.472	7.3908	8	7.5	10.2	10.6	1.7	0.31	0.28	17.8	23.1
HMVC 40E	7.847	7.7658	8	7.9	10.7	11.1	1.7	0.31	0.31	19.4	25.4
HMVC 44E	8.628	8.5468	8	8.7	11.5	12.0	1.7	0.31	0.35	22.3	29.8
HMVC 46E	9.125	9.0440	8	9.1	12.0	12.5	1.8	0.31	0.35	24.0	31.9
HMVC 48E	9.442	9.3337	6	9.5	12.4	13.0	1.8	0.35	0.39	25.6	35.3
HMVC 52E	10.192	10.0837	6	10.3	13.4	14.0	1.9	0.35	0.43	29.1	41.9
HMVC 54E	10.604	10.4960	6	10.7	13.9	14.5	1.9	0.35	0.47	30.7	45.2
HMVC 56E	11.004	10.8957	6	11.1	14.3	15.0	1.9	0.35	0.47	32.7	48.5
HMVC 60E	11.785	11.6767	6	11.9	15.2	15.9	2.0	0.39	0.55	36.6	56.2
HMVC 64E	12.562	12.4537	6	12.7	16.1	16.9	2.1	0.39	0.55	40.8	65.0
HMVC 68E	13.339	13.2190	5	13.5	16.9	17.7	2.1	0.39	0.55	44.0	69.4
HMVC 72E	14.170	14.0500	5	14.3	17.9	18.6	2.2	0.39	0.59	48.5	78.3
HMVC 76E	14.957	14.8370	5	15.0	18.7	19.6	2.3	0.43	0.63	51.9	89.3
HMVC 80E	15.745	15.6250	5	15.8	19.6	20.6	2.4	0.43	0.67	56.9	100
HMVC 84E	16.532	16.4120	5	16.6	20.6	21.5	2.4	0.43	0.67	62.0	110
HMVC 88E	17.319	17.1990	5	17.4	21.4	22.3	2.4	0.47	0.67	65.9	119
HMVC 92E	18.107	17.9870	5	18.2	22.2	23.3	2.5	0.47	0.67	69.9	132
HMVC 96E	18.894	18.7740	5	19.0	23.1	24.1	2.6	0.47	0.75	75.3	139
HMVC 100E	19.682	19.5620	5	19.8	24.0	25.0	2.6	0.47	0.75	79.8	154



Hydraulic tools

Ordering details and dimensions – HMVC E series (inch)

Designation		Pitch diameter	Threads						Permitted piston displacement	Piston area	Weight
	G			d_1	d_2	d_3	B	B_1			
	in.	in.		in.	in.	in.	in.	in.	in.	in.^{2}	lb
HMVC 106E	20.867	20.7220	4	20.9	25.4	26.4	2.7	0.51	0.83	87.1	174
HMVC 112E	22.048	21.9030	4	22.1	26.7	27.7	2.8	0.51	0.87	94.9	194
HMVC 120E	23.623	23.4780	4	23.7	28.4	29.4	2.9	0.51	0.91	104.3	220
HMVC 126E	24.804	24.6590	4	24.9	29.7	30.8	2.9	0.55	0.91	113.0	243
HMVC 134E	26.379	26.2340	4	26.5	31.3	32.5	3.0	0.55	0.94	123.2	265
HMVC 142E	27.961	27.7740	3	28.0	33.1	34.3	3.1	0.59	0.98	135.9	298
HMVC 150E	29.536	29.3490	3	29.6	34.8	35.9	3.1	0.59	0.98	147.6	322
HMVC 160E	31.504	31.3170	3	31.6	36.9	38.0	3.1	0.63	0.98	161.0	355
HMVC 170E	33.473	33.2860	3	33.5	39.0	40.2	3.3	0.63	1.02	177.6	399
HMVC 180E	35.441	35.2540	3	35.5	41.1	42.3	3.4	0.67	1.18	192.4	452
HMVC 190E	37.410	37.2230	3	37.5	43.2	44.3	3.4	0.67	1.18	210.3	481

SKF Hydraulic Pumps

THAP 030E
Air-driven oil injector
30 MPa *(4 350 psi)*

70

TMJL 50
50 MPa *(7 250 psi)*

66

729124
100 MPa *(14 500 psi)*

66

TMJL 100
100 MPa *(14 500 psi)*

67

728619 E
150 MPa *(21 750 psi)*

67

SKF Oil Injectors

THAP E series
Air-driven oil injector
300 MPa *(43 500 psi)*
400 MPa *(58 000 psi)*

70

226400 E series
300 MPa *(43 500 psi)*
400 MPa *(58 000 psi)*

68

729101 series
300 MPa *(43 500 psi)*
400 MPa *(58 000 psi)*

69

THKI series
300 MPa *(43 500 psi)*
400 MPa *(58 000 psi)*

69

Hydraulic pump and oil injector selection guide

Max. working pressure	Pump	Type	Oil container capacity	Connection nipple	Application examples [1]
30 MPa *(4 350 psi)*	**THAP 030E**	Air-driven pump	Separate container	G 3/4	SKF OK Coupling hydraulic chamber
50 MPa *(7 250 psi)*	**TMJL 50** [2]	Hand operated pump	2 700 cm^3 *(165 $in.^3$)*	G 1/4	All SKF HMV..E hydraulic nuts SKF OK Coupling hydraulic chamber
100 MPa *(14 500 psi)*	**729124** [2]	Hand operated pump	250 cm^3 *(15 $in.^3$)*	G 1/4	SKF HMV..E hydraulic nuts of size HMV 54 and smaller Oil injection for small bearing seatings
	TMJL 100 [2]	Hand operated pump	800 cm^3 *(48 $in.^3$)*	G 1/4	SKF HMV..E hydraulic nuts of size HMV 92 and smaller Oil injection for medium bearing seatings
150 MPa *(21 750 psi)*	**THAP 150E**	Air-driven pump	Separate container	G 3/4	Bolt tensioners, propellers Oil injection for large bearing seatings
	728619 E	Hand operated pump	2 550 cm^3 *(155 $in.^3$)*	G 1/4	SKF HMV..E hydraulic nuts Oil injection for large bearing seatings and SKF Supergrip bolts
300 MPa *(43 500 psi)*	**THAP 300E**	Air-driven oil injector	Separate container	G 3/4	OK Couplings Large pressure joints Oil injection for large gears and railway wheels
	226400 E	Hand operated oil injector	200 cm^3 *(12.2 $in.^3$)*	G 3/4	OK Couplings Oil injection for gears and railway wheels Pressure joints
	729101/ 300MPA	Oil injection kit	200 cm^3 *(12.2 $in.^3$)*	Several	OK Couplings Oil injection for gears and railway wheels Pressure joints Kit with accessories suitable for many applications
	THKI 300	Oil injection set	200 cm^3 *(12.2 $in.^3$)*	Several	Oil injection for gears and railway wheels Pressure joints Kit with accessories suitable for many applications
400 MPa *(58 000 psi)*	**THAP 400E**	Air-driven oil injector	Separate container	G 3/4	OK Couplings Large pressure joints Oil injection for large gears and railway wheels
	226400 E/400	Hand operated oil injector	200 cm^3 *(12.2 $in.^3$)*	G 3/4	OK Couplings Oil injection for gears and railway wheels Pressure joints
	729101/ 400MPA	Oil injection kit	200 cm^3 *(12.2 $in.^3$)*	Several	OK Couplings Oil injection for gears and railway wheels Pressure joints Kit with accessories suitable for many applications
	THKI 400	Oil injection set	200 cm^3 *(12.2 $in.^3$)*	Several	Oil injection for gears and railway wheels Pressure joints Kit with accessories suitable for many applications

[1] The interference fit and application size may mean that a pump / injector with a higher pressure and/or container volume is required.

[2] Also available with digital pressure gauge (see page p71)

Hydraulic tools

Hydraulic pumps

50 MPa *(7 250 psi)*

SKF Hydraulic Pump TMJL 50

The SKF TMJL 50 is mainly intended for larger SKF Hydraulic Nuts and SKF OK Coupling hydraulic chambers, but is also suitable for applications where a maximum pressure of 50 MPa *(7 250 psi)* is required.

- Large oil container capacity 2 700 cm^3 *(165 $in.^3$)*
- Over pressure valve and connection port for a pressure gauge
- Packed in a sturdy protective case

Applications

- SKF OK Coupling hydraulic chambers
- All sizes SKF Hydraulic Nuts
- Oil injection applications where the maximum pressure is 50 MPa *(7 250 psi)*

100 MPa *(14 500 psi)*

SKF Hydraulic Pump 729124

The SKF 729124 is mainly intended for SKF Hydraulic Nuts (≤ HMV 54E) to mount bearings or components where a maximum pressure of 100 MPa *(14 500 psi)* is required.

- Oil container capacity 250 cm^3 *(15 $in.^3$)*
- Fitted with a pressure gauge
- Packed in a sturdy protective case

Applications

- SKF Hydraulic Nuts ≤ HMV 54E
- Oil injection applications where the maximum pressure is 100 MPa *(14 500 psi)*
- For applications where space does not permit the use of a quick connect coupling and nipple, such as AOH sleeves, a special pump design that direct screws into a G1/4 fitting is available. (SKF 729124 A)

Technical data

Designation	TMJL 50	729124	TMJL 100	728619 E
Maximum pressure	50 MPa *(7 250 psi)*	100 MPa *(14 500 psi)*	100 MPa *(14 500 psi)*	150 MPa *(21 750 psi)*
Oil container capacity	2 700 cm^3 *(165 $in.^3$)*	250 cm^3 *(15 $in.^3$)*	800 cm^3 *(48 $in.^3$)*	2 550 cm^3 *(155 $in.^3$)*
Volume/stroke	3,5 cm^3 *(0.21 $in.^3$)*	0,5 cm^3 *(0.03 $in.^3$)*	1,0 cm^3 *(0.06 $in.^3$)*	1st stage: 20 cm^3 below 2,5 MPa *(1.2 $in.^3$ below 362 psi)* 2nd stage: 1 cm^3 above 2,5 MPa *(0.06 $in.^3$ above 362 psi)*
Length of pressure hose fitted with quick connection coupling	3 000 mm *(118 in.)*	1 500 mm *(59 in.)*	3 000 mm *(118 in.)*	3 000 mm *(118 in.)*
Connection nipple (included)	G1/4 quick connection	G1/4 quick connection	G1/4 quick connection	G1/4 quick connection
Weight	12 kg *(26 lb)*	3,5 kg *(8 lb)*	13 kg *(29 lb)*	11,4 kg *(25 lb)*

All SKF Hydraulic Pumps are filled with SKF Mounting Fluid and are supplied with an extra litre of fluid.

Large oil container 100 MPa *(14 500 psi)*

SKF Hydraulic Pump TMJL 100

The SKF TMJL 100 pump is mainly intended for use with hydraulic nuts (≤ HMV 92E) to mount bearings or components where a maximum pressure of 100 MPa *(14 500 psi)* is required.

- Oil container capacity 800 cm^3 *(48 $in.^3$)*
- Fitted with a pressure gauge
- Packed in a sturdy protective case

Applications

- SKF Hydraulic Nuts ≤ HMV 92E
- Oil injection applications where the maximum pressure is 100 MPa *(14 500 psi)*
- Suitable with SKF Hydraulic Assisted Pullers TMHP series

150 MPa *(21 750 psi)*

SKF Hydraulic Pump 728619 E

The SKF 728619 E is a two-stage pump suitable for use with SKF Supergrip Bolts and to mount bearings or components where a maximum pressure of 150 MPa *(21 750 psi)* is required.

- Oil container capacity 2 550 cm^3 *(155 $in.^3$)*
- Two stage pressure pumping
- Fitted with a pressure gauge
- Packed in a sturdy protective case

Applications

- SKF Supergrip Bolts
- Oil injection applications where the maximum pressure is 150 MPa *(21 750 psi)*
- All sizes SKF Hydraulic Nuts

SKF Mounting Fluid LHMF 300 and SKF Dismounting Fluid LHDF 900

SKF mounting and dismounting fluids are suitable for use with SKF hydraulic equipment, including hydraulic pumps, HMV ..E nuts and oil injection tools in mounting and dismounting jobs. All SKF Hydraulic Pumps are filled with SKF Mounting Fluid LHMF 300 and are supplied with an extra litre of fluid.

For more information, see page 76

Hydraulic tools

Oil Injectors

To enable the SKF Oil Injection Method to be used, a range of oil injectors, kits and sets are available. Depending on the model chosen, working pressures up to 400 MPa (58 000 psi) can be achieved. In addition, a comprehensive range of high pressure accessories such as pipes, connection nipples, extension pipes and plugs permit the use of SKF Oil Injectors for many different applications.

SKF Oil Injection Kits 729101 series

300 and 400 MPa *(43 500 and 58 000 psi)*

SKF Oil Injector 226400 E series

The 226400 E series is suitable for many applications using the SKF Oil Injection Method. The injector is supplied with an oil reservoir in a compact carrying case. The injector can be mounted directly onto the work piece or connected to an adapter block to make a floor standing model, making it easy to connect pressure gauges and high-pressure pipes. For applications where 400 MPa *(58 000 psi)* is required, the SKF 226400 E/400 is available.

- Easy to operate
- Compact carrying case
- When the pressure is released, the unused oil is automatically returned to the reservoir, minimizing the risk of oil leakage to the environment
- Oil container capacity 200 cm^3 *(12.2 $in.^3$)*
- Can be used with a wide range of accessories, such as:
  - Adapter block
  - Pressure gauges
  - High pressure pipes
  - Connecting nipples

Technical data

Designation	226400 E 729101/300MPA	226400 E/400 729101/400MPA	THKI 300	THKI 400
Maximum pressure	300 MPa *(43 500 psi)*	400 MPa *(58 000 psi)*	300 MPa *(43 500 psi)*	400 MPa *(58 000 psi)*
Volume per stroke	0,23 cm^3 *(0.014 $in.^3$)*	0,23 cm^3 *(0.014 $in.^3$)*	0,23 cm^3 *(0.014 $in.^3$)*	0,23 cm^3 *(0.014 $in.^3$)*
Oil reservoir capacity	200 cm^3 *(12.2 $in.^3$)*	200 cm^3 *(12.2 $in.^3$)*	200 cm^3 *(12.2 $in.^3$)*	200 cm^3 *(12.2 $in.^3$)*
Connecting threads	G3/4	G3/4	G3/4	G3/4

300 and 400 MPa *(43 500 and 58 000 psi)*

SKF Oil Injection Kits 729101 series

The 729101 series of SKF Oil Injection Kits are suitable for many applications using the SKF Oil Injection Method. Each kit contains an SKF Oil Injector complete with a high pressure pipe, pressure gauge, adapter block and a range of connection nipples.

- Injector can be used directly on the application or by connecting to the accessories provided
- All items packed in a sturdy, compact carrying case especially suitable for field use
- When the pressure is released, the unused oil is automatically returned to the reservoir, minimizing the risk of oil leakage to the environment
- Oil container capacity 200 cm^3 *(12.2 $in.^3$)*

300 and 400 MPa *(43 500 and 58 000 psi)*

SKF Oil Injection Set THKI series

The SKF THKI series is used for the mounting and dismounting of pressure joints of all sizes and applications such as rolling bearings, couplings, gears, flywheels and railway wheels. The set consists of a stand-mounted oil injector complete with a high pressure pipe, pressure gauge and a range of connection nipples.

- Designed to be especially suitable for workshop use
- When the pressure is released, the unused oil is automatically returned to the reservoir, minimizing the risk of oil leakage to the environment
- Oil container capacity 200 cm^3 *(12.2 $in.^3$)*
- Can be used for applications requiring a maximum pressure of up to 400 MPa *(58 000 psi)*

Contents list

Designation	729101/300MPA	729101/400MPA	THKI 300	THKI 400
Oil injector	226400 E	226400 E/400	THKI 300	THKI 400
Adapter block	226402	226402	227957 A	227957 A/400 MP
Pressure gauge	1077589	1077589/3	1077589	1077589/3
High pressure pipe ($G^3/4$–$^1/4$)	227957 A/400MP	227957 A/400MP	227957 A/400MP	227957 A/400MP
Connection nipple ($G^1/4$–$^1/8$)	1014357 A	–	1014357 A	–
Connection nipple ($G^1/4$–$^1/2$)	1016402E	1016402E	1016402E	1016402E
Connection nipple ($G^1/4$–$^3/4$)	228027E	228027E	228027E	228027E
Mounting fluid	–	–	LHMF 300/1	LHMF 300/1
Carrying case	Yes	Yes	Yes	Yes

Hydraulic tools

30, 150, 300 and 400 MPa *(4 350, 21 750, 43 500 and 58 000 psi)*

SKF Air-driven Hydraulic Pumps and Oil Injectors, THAP E series

The THAP E air-driven hydraulic pumps and oil injectors are available in four different pressure versions. They can be used for mounting OK Couplings, large pressure joints such as bearings, flywheels, couplings and railway wheels. The THAP E unit consists of a hydraulic pump or high pressure oil injector, driven by an air motor.

The units are supplied in a sturdy case including oil suction and return hoses with quick connect couplings. The units can also be supplied in complete sets, consisting of a THAP E and such accessories as a pressure gauge, high pressure pipe or pressure hose.

- Time savings compared to hand operated pumps and oil injectors
- Portable
- Continuous supply of oil
- Internal air pressure limiter helps ensure safe operation
- Low air consumption
- Wide operating temperature range
- Sturdy storage boxes
- Low, medium and high pressure units

Applications

- SKF OK Couplings
- Mounting bearings
- Mounting ship propellers, rudder pintles, railway wheels and other similar applications

THAP E/SK1

THAP E

Technical data

Designation	THAP 030E		THAP 150E		THAP 300E		THAP 400E	
Nominal hydraulic pressure	30 MPa	*(4 350 psi)*	150 MPa	*(21 750 psi)*	300 MPa	*(43 500 psi)*	400 MPa	*(58 000 psi)*
Operating air pressure [1]	7 bar	*(101.5 psi)*	7 bar	*(101.5 psi)*	7 bar	*(101.5 psi)*	7 bar	*(101.5 psi)*
Volume/stroke	10 cm^3	*(0.61 $in.^3$)*	1,92 cm^3	*(0.12 $in.^3$)*	0,83 cm^3	*(0.05 $in.^3$)*	0,64 cm^3	*(0.039 $in.^3$)*
Oil outlet	G 3/4		G 3/4		G 3/4		G 3/4	
Length	350 mm	*(13.9 in.)*	350 mm	*(13.9 in.)*	405 mm	*(16 in.)*	405 mm	*(16 in.)*
Height	202 mm	*(8 in.)*	202 mm	*(8 in.)*	202 mm	*(8 in.)*	202 mm	*(8 in.)*
Width	171 mm	*(6.7 in.)*	171 mm	*(6.7 in.)*	171 mm	*(6.7 in.)*	171 mm	*(6.7 in.)*
Weight	11,5 kg	*(25.3 lb)*	11,5 kg	*(25.3 lb)*	13 kg	*(28.6 lb)*	13 kg	*(28.6 lb)*

Also available as complete set in carrying case

THAP 030E/SK1	Consisting of pump, high pressure hose and connecting nipples.
THAP 150E/SK1	Consisting of pump, pressure gauge, high pressure hose and connecting nipples.
THAP 300E/SK1	Consisting of oil injector, pressure gauge and high pressure pipe.
THAP 400E/SK1	Consisting of oil injector, pressure gauge and high pressure pipe.

[1] Air pressures above 7 bar are automatically limited to 7 bar by an internal air limiter.

100 to 400 MPa *(14 500 to 58 000 psi)*

SKF Pressure Gauges

SKF Pressure Gauges are designed to fit SKF Hydraulic Pumps and SKF Oil Injectors. The gauges are all liquid filled and/or equipped with a restriction screw in order to absorb any sudden pressure drop thereby preventing damage. Safety glass and blowout discs are standard for all gauges and all have dual scales (MPa/psi).

- Covers pressures of 100 to 400 MPa *(14 500 to 58 000 psi)*
- Protection against sudden pressure drops
- Safety glass and blow out discs on all gauges
- Stainless steel case
- Dual scales MPa/psi
- Easy to read, high visibility yellow gauge faces

The Digital oil pressure gauge, THGD 100, is used to accurately measure the hydraulic pressure when mounting bearings using the SKF Drive-up Method.

1077587

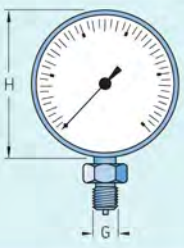
1077589

1077589/3

1077587/2

Technical data

Designation	Pressure range		Diameter (H)		Connection thread	Weight		Accuracy
	MPa	*psi*	mm	*in.*		kg	*lb*	% of full scale
1077587	0–100	*0–14 500*	110	*4.33*	G 1/2	1,00	*2.2*	1
1077587/2	0–100	*0–14 500*	69	*2.72*	G 1/4	0,25	*0.6*	1,6
THGD 100 [1]	0–100	*0–15 000*	79	*3.10*	G 1/4	0,54	*1.2*	±0,1
1077589	0–300	*0–43 500*	110	*4.33*	G 1/2	1,00	*2.2*	1
1077589/3	0–400	*0–58 000*	110	*4.33*	G 1/2	1,00	*2.2*	1



[1] Digital pressure gauge

Hydraulic tools

Accessories

Flexible solutions to connect oil injection equipment

SKF High-pressure Pipes

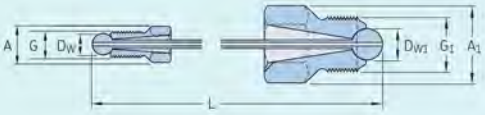
SKF High pressure pipes can be used when SKF Oil Injection equipment cannot be connected directly to a pressure joint. Typically they are used for non bearing applications where the oil injection pressure is in excess of 150 MPa *(21 750psi)*. They consist of a steel pipe with a steel ball fitted to both ends. Two swivelling connection nipples press these balls against the seating of the connecting hole and seal against oil leakage.

- Flexible connection to non-bearing applications such as gear wheels, railway wheels and couplings
- All pipes are pressure tested during production
- Special lengths up to 4 000 mm *(157 in.)* can be made on request

Technical data

Designation			Dimensions										Weight	
	G	G_1	A		A_1		D_w		D_{w1}		L			
			mm	*in.*	mm	*in.*	mm	*in.*	mm	*in.*	mm	*in.*	kg	*lb*
227957 A/400MP	G1/4	G3/4	17,3	*0.68*	36,9	*1.45*	11,11	*0.44*	15,88	*0.63*	2 000	*78*	0,4	*0.9*
227958 A/400MP	G3/4	G3/4	36,9	*1.45*	36,9	*1.45*	15,88	*0.63*	15,88	*0.63*	2 000	*78*	0,6	*1.3*
1020612 A	G1/4	G1/4	17,3	*0.68*	17,3	*0.68*	11,11	*0.44*	11,11	*0.44*	1 000	*39*	0,5	*1.1*

Maximum working pressure	400 MPa *(58 000 psi)*
Test quantity	100%
Outer pipe diameter	6 mm *(0.24 in.)*
Inner pipe diameter	1,6 mm *(0.06 in.)*
Pipe minimum bending radius	100 mm *(4 in.)*
Pipe lengths	Between 1 000 mm *(39 in.)* and 4 000 mm *(157 in.)* can be ordered e.g. 227957 S/3000 (3 000 mm long)



Maximum working pressure up to 150 MPa *(21 750 psi)*

SKF Flexible High-pressure Hoses

The SKF flexible pressure hoses are designed to be used together with the quick connect coupling SKF 729831 A and nipple SKF 729832 A on the range of SKF Hydraulic Pumps.

Designation	Bore diameter		Outside diameter		Maximum working pressure		Minimum burst pressure		Minimum bending radius		End fittings	Working temperature		Length		Weight	
	mm	*in.*	mm	*in.*	MPa	*psi*	MPa	*psi*	mm	*in.*		°C	°F	mm	*in.*	kg	*lb*
729126	6,4	*0.25*	13,4	*0.53*	100	*14 500*	320	*46 400*	80	*3.2*	G1/4	–40/100	*–40/212*	1 500	*59*	0,65	*1.4*
729834	4,8	*0.19*	11,6	*0.46*	150	*21 750*	450	*65 250*	130	*5.1*	G1/4	–10/100	*14/212*	3 000	*118*	1,0	*2.2*

Safety note:

For safety reasons, these high-pressure pipes have a maximum service life.
All SKF high pressure pipes are hard-marked with the year in which their service life expires; e.g. DO NOT USE AFTER 2023. High pressure pipes are marked with their maximum working pressure of MAX 400 MPa.

All flexible pressure hoses are subject to ageing and, after a number of years, the performance deteriorates. All SKF flexible pressure hoses are hard marked with the year in which their life expires, e.g. LIFE EXPIRES 2023.

Catering for adapter and withdrawal sleeve applications

SKF Extension Pipes

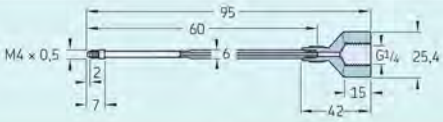
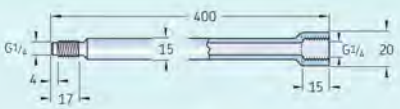
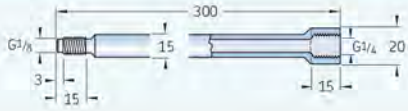
M4 extension pipe with connection nipple
Enables the use of an SKF hydraulic pump to connect to a sleeve connection hole with a M4 thread. The extension pipe and connection nipple should be ordered as separate items.

M6 extension pipe with connection nipple
Enables the use of an SKF hydraulic pump to connect to a sleeve connection hole with a M6 thread. The extension pipe and connection nipple should be ordered as separate items.

$G^1/_4$ extension pipe
Enables the use of an SKF hydraulic pump to connect to a sleeve connection hole with a $G^1/_4$ thread. Can be used for applications where the sleeve position does not allow a direct connection with a quick connector.

$G^1/_8$ extension pipe
Enables the use of an SKF hydraulic pump to connect to a sleeve connection hole with a $G^1/_8$ thread. Can be used for applications where the sleeve position does not allow a direct connection with a quick connector.

Technical data

Designation	Max. pressure		
pipe 234064/50MPA	50 MPa *(7 250 psi)*		M4 extension pipe with connection nipple
nipple 234063/50MPA	50 MPa *(7 250 psi)*		
pipe 1077453/100MPA	100 MPa *(14 500 psi)*		M6 extension pipe with connection nipple
nipple 1077454/100MPA	100 MPa *(14 500 psi)*		
pipe 227966/100MPA	100 MPa *(14 500 psi)*		$G^1/_4$ extension pipe
pipe 227965/100MPA	100 MPa *(14 500 psi)*		$G^1/_8$ extension pipe

Hydraulic tools

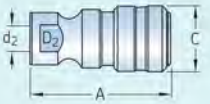
For easy pressure hose connection

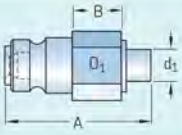
SKF Quick Connecting Coupling and Nipples

One coupling and two different nipples are available to connect SKF Hydraulic Pumps to the work piece. When nipples with other thread types are required, select an additional SKF nipple from the range to make the connection. SKF Nipple 729832 A is supplied standard with all SKF Hydraulic Nuts HMV ..E series.

Technical data

Designation	Thread	Dimensions			Maximum pressure
Coupling	d_2	D_2	C	A	
729831 A	G1/4	24 mm (*0.94 in.*)	27 mm (*1.06 in.*)	58 mm (*2.28 in.*)	150 MPa (*21 750 psi*)
Nipples	d_1	D_1	B	A	
729832 A	G1/4	22 mm (*0.87 in.*)	14 mm (*0.55 in.*)	46 mm (*1.81 in.*)	150 MPa (*21 750 psi*)
729100	G1/8	17 mm (*0.67 in.*)	14 mm (*0.55 in.*)	43mm (*1.69 in.*)	100 MPa (*14 500 psi*)





Up to 400 MPa (*58 000 psi*)

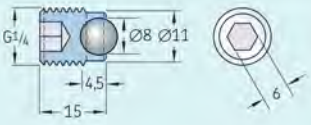
Plugs for oil ducts and vent holes

SKF plugs have been designed to seal off oil connections at a maximum pressure of 400 MPa (*58 000 psi*).

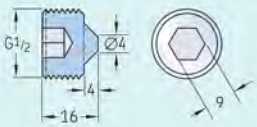
Technical data

Designation	Thread	Length
233950 E	G1/4	15 mm (*0.59 in.*)
729944 E	G1/2	17 mm (*0.67 in.*)
1030816 E	G3/4	23 mm (*0.90 in.*)

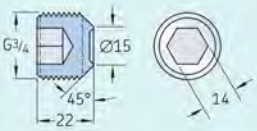
Maximum working pressure 400 MPa (*58 000 psi*)



Plug 233950 E



Plug 729944 E



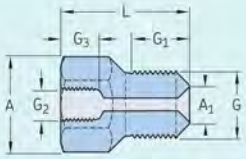
Plug 1030816 E

SKF Connection Nipples

SKF provides a wide range of connection nipples covering many different thread combinations and sizes. They are used as adapters to enable pipes and hoses to be connected to different thread sizes.

Technical data – Nipples with metric and G pipe threads

Designation	G	G_2	Max. working pressure		Dimensions A		A_1		G_1		G_3		L		Width across flats
			Mpa	*Psi*	mm	*in.*	mm	*in.*	mm	*in.*	mm	*in.*	mm	*in.*	mm
1077456/100MPA	M8	M6	100	*14 500*	11	*0.43*	5	*0.20*	15	*0.59*	9	*0.35*	33	*1.30*	10
1077455/100MPA	G1/8	M6	100	*14 500*	11	*0.43*	7	*0.28*	15	*0.59*	9	*0.35*	33	*1.30*	10
1014357 A	G1/8	G1/4	300	*43 500*	25,4	*1.00*	7	*0.28*	15	*0.59*	15	*0.59*	43	*1.69*	22
1009030 B	G1/8	G3/8	300	*43 500*	25,4	*1.00*	7	*0.28*	15	*0.59*	15	*0.59*	42	*1.65*	22
1019950	G1/8	G1/2	300	*43 500*	36,9	*1.45*	7	*0.28*	15	*0.59*	14	*0.55*	50	*1.97*	32
1018219 E	G1/4	G3/8	400	*58 000*	25,4	*1.00*	9,5	*0.37*	17	*0.67*	15	*0.59*	45	*1.77*	22
1009030 E	G1/4	G3/4	400	*58 000*	36,9	*1.45*	9,5	*0.37*	17	*0.67*	20	*0.79*	54	*2.13*	32
1012783 E	G3/8	G1/4	400	*58 000*	25,4	*1.00*	10	*0.39*	17	*0.67*	15	*0.59*	43	*1.96*	22
1008593 E	G3/8	G3/4	400	*58 000*	36,9	*1.45*	10	*0.39*	17	*0.67*	20	*0.79*	53	*2.09*	32
1016402 E	G1/2	G1/4	400	*58 000*	25,4	*1.00*	14	*0.55*	20	*0.79*	15	*0.59*	43	*1.96*	22
729146	G1/2	G3/4	300	*43 500*	36,9	*1.45*	–	–	17	*0.67*	20	*0.79*	50	*1.97*	32
228027 E	G3/4	G1/4	400	*58 000*	36,9	*1.45*	15	*0.59*	22	*0.87*	15	*0.59*	50	*1.97*	32
1018220 E [1]	G1/4	G1/4	400	*58 000*	25,4	*1.00*	9.5	*0.37*	20	*0.79*	15	*0.59*	52	*2.05*	22



[1] Not suitable for use with quick connection couplings and nipples !

Technical data – Nipples with NPT tapered threads

Designation	G	G_2	Max. working pressure		Dimensions A		G_1		G_3		L		Width across flats
			Mpa	*Psi*	mm	*in.*	mm	*in.*	mm	*in.*	mm	*in.*	mm
729654/150MPA	NPT 1/4"	G1/4	150	*21 750*	25,4	*1.00*	15	*0.59*	15	*0.59*	42	*1.65*	22
729655/150MPA	NPT 3/8"	G1/4	150	*21 750*	25,4	*1.00*	15	*0.59*	15	*0.59*	40	*1.57*	22
729106/100MPA	G1/4	NPT 3/8"	100	*14 500*	36,9	*1.45*	17	*0.67*	15	*0.59*	50	*1.97*	32
729656/150MPA	NPT 3/4"	G1/4	150	*21 750*	36,9	*1.45*	20	*0.79*	15	*0.59*	45	*1.77*	32

Hydraulic tools

SKF Adapter Block 226402

The adapter block SKF 226402 consists of a cast steel block to which a pressure gauge and high-pressure pipe can be connected. It comes with a floor support and a 90 degree connection nipple for the oil reservoir.

Technical data

Designation	226402
Maximum pressure	400 MPa *(58 000 psi)*
Pressure gauge connection	$G^1/_2$
Pressure pipe connection	$G^3/_4$
Weight	2.55 kg *(5.6 lb)*

- Highly accurate measurement
- 729865 A has 13 blades of 100 mm *(4 in.)* length
- 729865 B has 29 blades of 200 mm *(8 in.)* length

For accurate bearing clearance measurement

SKF Feeler Gauges 729865 series

As an alternative to the SKF Drive-up method SKF Feeler Gauges can be used to measure the internal clearance when adjusting spherical roller bearings.

729865 A - Blade thickness

mm	*in.*	mm	*in.*	mm	*in.*
0,03	*0.0012*	0,08	*0.0031*	0,14	*0.0055*
0,04	*0.0016*	0,09	*0.0035*	0,15	*0.0059*
0,05	*0.0020*	0,10	*0.0039*	0,20	*0.0079*
0,06	*0.0024*	0,12	*0.0047*	0,30	*0.0118*
0,07	*0.0028*				

729865 B - Blade thickness

mm	*in.*	mm	*in.*	mm	*in.*
0,05	*0.0020*	0,18	*0.0071*	0,60	*0.0236*
0,09	*0.0035*	0,19	*0.0075*	0,65	*0.0256*
0,10	*0.0039*	0,20	*0.0079*	0,70	*0.0276*
0,11	*0.0043*	0,25	*0.0098*	0,75	*0.0295*
0,12	*0.0047*	0,30	*0.0118*	0,80	*0.0315*
0,13	*0.0051*	0,35	*0.0138*	0,85	*0.0335*
0,14	*0.0055*	0,40	*0.0157*	0,90	*0.0354*
0,15	*0.0059*	0,45	*0.0177*	0,95	*0.0374*
0,16	*0.0063*	0,50	*0.0197*	1,00	*0.0394*
0,17	*0.0067*	0,55	*0.0216*		

For bearing mounting

SKF Mounting Fluid LHMF 300

SKF Mounting Fluid is suitable for use with SKF hydraulic equipment, including hydraulic pumps, HMV ..E nuts and oil injection tools. SKF LHMF 300 contains anti-corrosives which are non-aggressive to seal materials such as nitrile rubber, perbunan, leather and chrome leather, PTFE, and so on.

For bearing dismounting

SKF Dismounting Fluid LHDF 900

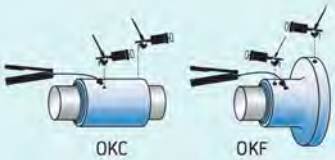
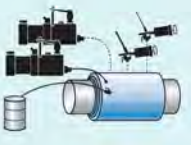
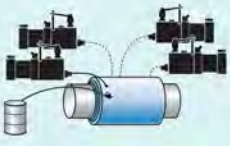
SKF Dismounting Fluid is suitable for use with SKF hydraulic equipment, including hydraulic pumps and oil injection tools. SKF LHDF 900 contains anti-corrosives which are non-aggressive to seal materials such as nitrile rubber, perbunan, leather and chrome leather, PTFE, and so on.

Technical data

Designation	LHDF 900/pack size	LHMF 300/pack size
Specific gravity	0,885	0,882
Flash point	202 °C *(395 °F)*	200 °C *(390 °F)*
Pour point	–28 °C *(–18 °F)*	–30 °C *(–22 °F)*
Viscosity at 20 °C *(68 °F)*	910 mm^2/s	307 mm^2/s
Viscosity at 40 °C *(104 °F)*	330 mm^2/s	116 mm^2/s
Viscosity at 100 °C *(212 °F)*	43 mm^2/s	17,5 mm^2/s
Viscosity index	187	167
Available pack size	5 and 205 litre	1, 5, 205 litre

OK Coupling mounting and dismounting kits

Technical data

Coupling size	Designation	Contents	Weight	Application
OKC 45–OKC 90	**TMHK 35**	1 x 226400 E Injector with spares 1 x 226402 Adapter block 1 x 228027 E Nipple 1 x 729944 E Plug 1 x 227958 A/400MP Pressure pipe (for OKC 80 and 90) 1 x 728017A/2000 Pressure pipe (for OKC 45–75) Tools and storage case	12 kg *(26.5 lb)*	
OKC 100–OKC 170 OKCS 178–OKCS 360	**TMHK 36**	1 x 226400 E Injector with spares 1 x TMJL 50 Hydraulic pump Tools and storage case	19 kg *(41.8 lb)*	
OKC 180–OKC 250 OKF 100–OKF 300 [1] for use with OKF couplings	**TMHK 37**	2 x 226400 E Injector with spares 1 x 226402 [1] Adapter block 1 x 2227957 A/400MP High pressure pipe 1 x 228027 E Nipple 1 x TMJL 50 Hydraulic pump Tools and storage case	28,1 kg *(61.8 lb)*	
OKC 180–OKC 490 OKF 300–OKF 700 Shipboard or infrequent use	**TMHK 38**	1 x THAP 030E/SK1 Air-driven pump set 1 x 729147A Return hose 2 x 226400 E Injector with spares	36 kg *(79.5 lb)*	
OKC 180–OKC 490 OKF 300–OKF 700 Shipyard or frequent use	**TMHK 38S**	1 x THAP 030E/SK1 Air-driven pump set 1 x 729147A Return hose 1 x THAP 300E Air-driven oil injector 1 x 226400 E Injector with spares	81,7 kg *(180 lb)*	
OKC 500–OKC 600 Shipboard or infrequent use	**TMHK 39**	1 x THAP 030E/SK1 Air-driven pump 1 x 729147A Return hose 3 x 226400 E Injector with spares	38,6 kg *(85 lb)*	
OKC 500 and larger Shipboard or infrequent use	**TMHK 40**	1 x THAP 030E/SK1 Air-driven pump 1 x THAP 300E Air-driven pump 1 x 729147A Return hose 2 x 226400 E Injector with spares	84 kg *(185 lb)*	
OKC 500 and larger Shipyard or frequent use	**TMHK 41**	1 x THAP 030E/SK1 Air-driven pump 3 x THAP 300E Air-driven oil injector 1 x 729147A Return hose	136 kg *(300 lb)*	

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