

Electro Mechanical Cylinder LEMC

Instruction for maintenance, limit switch and motor assembly



A. Maintenance instructions LEMC

a. Lubricant information

Standard grease used

Grease type:	Klubberplex
BEM34-132	
Viscosity:	130 cSt at 40 °C
	15,5 cSt at 100 °C
NLGI classification:	2
Base oil type:	Mixed (mineral and synthetic oils)
Soap:	Special calcium soap
Supplier:	Klüber

For special request (such as food industry, extreme pressure additives,...) please contact SKF.

b. Roller screw

The recommended lubrication interval is every 4 000 hours (6 months) for duty cycles under 20% (interval of re-lubrication is function of several parameters and could be adjusted case by case). At a minimum, LEMCs should be lubricated every year.

The recommended lubricant quantity to be added is defined for each stroke length in cm³ (see table).

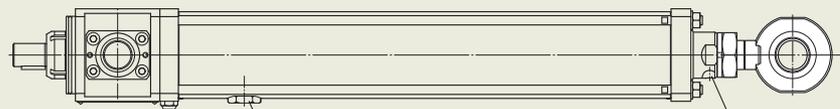
For different duty cycles (XX%), the recommended lubrication interval is calculated by the formula: 4 000 × 20% / XX%.

Preferably, the recommended lubricant quantity can be applied in smaller doses throughout the same period.

Stroke

mm

Type	100	200	300	400	500	600	700	800
LEMC21xx	7	8	9	10	11	12	NA	NA
LEMC30xx	17	18,5	20	21,5	23	24,5	26	27,5



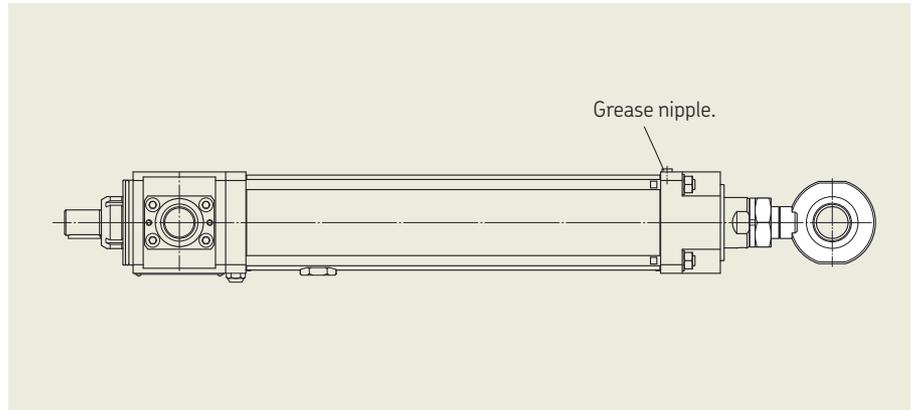
Grease point and radial hole (end of push tube) must be aligned.

c. Front guide (Anti-rotation – Option)

The recommended lubrication interval is every 4 000 hours (6 months) for duty cycles under 20%. At a minimum, LEMCs should be lubricated every year.

The recommended lubricant quantity to be added is 2 cm³.

For different duty cycles (XX%), the recommended lubrication interval is calculated by the formula: $4\,000 \times 20\% / XX\%$.



d. Procedure

- 1 Position the cylinder at the greasing position (Stroke 0 mm – check greasing position on drawing, see LEMC catalogue PUB MT/P2 16502 EN).
- 2 Be sure that the radial hole on the end of the pushing tube is aligned with the greasing plug.
- 3 Remove the greasing plug to gain access to the roller screw grease nipple.
- 4 Inject half the required amount of grease through the roller screw grease nipple and front guide grease nipple (anti-rotation option).
- 5 Make ten double strokes slowly along the whole stroke to spread the grease along the screw shaft.
- 6 Repeat steps 1, 2 and 4.
- 7 Replace the greasing plug.
- 8 Monitor the actuator temperature level to be sure it does not overheat, especially if it is used under high speed.

The state of the old grease can be seen and the quantity and interval for re-lubrication modified to suit the real operating conditions (temperature, speed, load, ...).

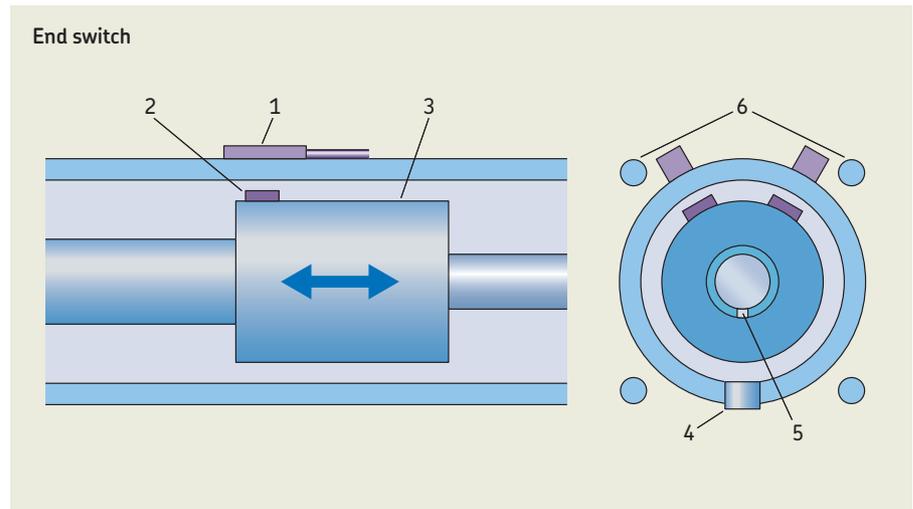
This is a closed system. When re-lubricating, the old grease takes up free space in the cylinder. If the free space is filled, the cylinder will overheat.

B. End & home switch instructions

a. Function and features

The sensor signals the position of the nut body in the actuator. It detects a magnet located on the moving part when it passes the sensor and signals this by means of an output signal. Those sensors must be positioned on a dedicated area to ensure detection: all limit switches have to be located on the opposite side of the greasing plug.

- 1 Sensor
- 2 Magnet
- 3 Nut body
- 4 Greasing plug
- 5 Pushing tube radial hole
- 6 Dedicated tie rod



b. Installation

The radial hole on the end of the pushing tube must be aligned with the greasing plug to achieve the correct angular position of the magnetic field.

Assemble the sensor into its adaptor, tighten the clamp screw and affix the sub-assembly (sensor + adaptor) on the dedicated tie rod. Position the sensor where you want to detect the position of the nut body.

c. Electrical connection

Disconnect power before connecting the sensor. Connect strictly to the indications on the type label. Core colors for units with cable connect:

BN = brown, BU = blue, BK = black,
WH = white.

d. End limit switch – adjustment/operation

- Adjust the actuator stroke in the detection position.
- Precisely align the sensor by means of the LED indication: The LED is lit when the output is switched. Be careful with the position of the magnetic field and the sensor.
- Tighten the grub screw to secure the adaptor on the tie rod.

e. Home position – adjustment/operation

- Adjust the actuator stroke in the detection position.
- Precisely align the sensor by means of the LED indication: The LED is lit when the output is switched. Be careful with the position of the magnetic field and the sensor.
- Tighten the grub screw to secure the adaptor on the tie rod.

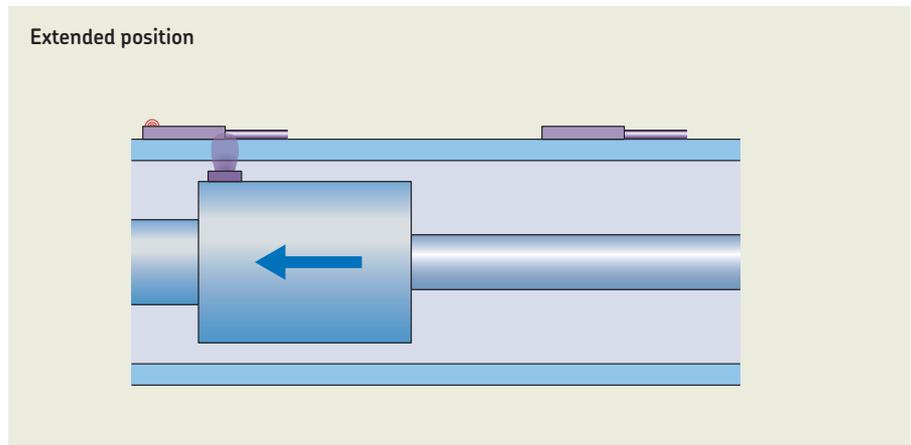
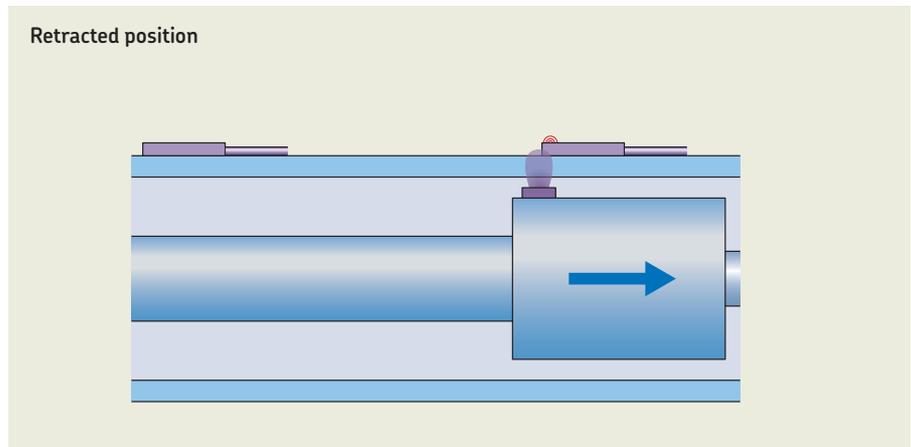
Searching for the home position sensor must be performed using always same method.

For instance, use following method:

- Drive in and retract the actuator to retracted position (up to limit switch sensor)
- Than drive out the actuator up to home position sensor

f. Note

If the cylinder is mounted in the immediate vicinity of magnetisable components, the switching characteristics of the sensor may change.



MK5155

MKT3020BAPKG/A/0.3M/ZH/AS

Supplier: IFM ELECTRONIC

Products characteristics

Cylinder sensor with AMR cell
 Plastic housing for T-slot cylinders
 Cable with connector
 [f] flush mountable
 Magnetic sensitivity 2.0 mT
 Travel speed > 10m/s

Electrical data

Electrical design	DC PNP
Operating voltage [V]	10...30 DC
Current consumption [mA]	< 10
Protection class	III
Reverse polarity protection	Yes
Power-on delay time [ms]	< 30

Outputs

Output function	Normally closed
Voltage drop [V]	< 2.5
Current rating [mA]	100
Short-circuit protection	yes
Overload protection	yes
Switching frequency [Hz]	6 000

Range

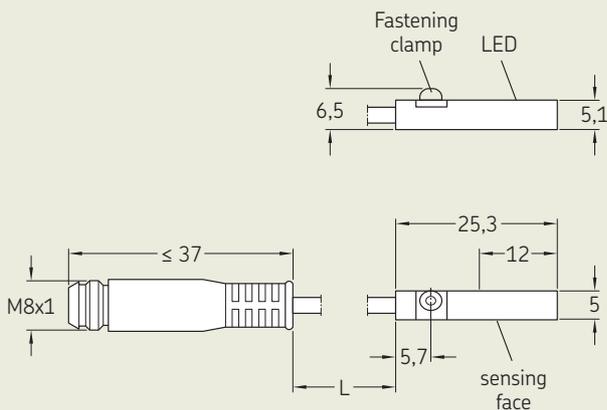
Magnetic sensitivity [mT]	2.0
Travel speed [m/s]	>10

Accuracy/deviations

Hysteresis [mm]	1,0
Repeatability [mm]	<0,2

Environment

Ambient temperature [°C]	-25...85
Protection	IP 65 / IP 67



Tests/approvals

EMC	EN 61000-4-2 ESD: EN 61000-4-3 HF radiated: EN 61000-4-4 Burst: EN 61000-4-6 HF conducted: EN 55011:	-CD / 8 kV AD 10 V/m (80...2000 MHz) 2 kV 10 V (0.15...80 MHz) class B
MTTF [Years]	2076	

Mechanical data

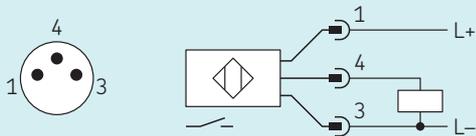
Mounting	Flush mountable
Housing materials	Housing: PA (polyamide); Fastening clamp: stainless steel
Weight [kg]	0,012

Displays/operating elements

Output status indication LED	Yellow
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Electrical connection

Connection	PUR cable/0,3 m: with M8 connector (snap-fit)
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Accessories

Accessories (included)	Rubber placeholder: cable clip
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Remarks

Remarks	cULus – Class 2 source required Clamping screw with combined slot/hexagon socket head AF 1.5
Pack quantity [piece]	1

MK5159

MKT3020BBPKG/A/0.3/ZH/ASR

Supplier: IFM ELECTRONIC

Products characteristics

Cylinder sensor with AMR cell
 Plastic housing for T-slot cylinders
 Cable with connector
 [f] flush mountable
 Magnetic sensitivity 2.0 mT
 Travel speed > 10 m/s

Electrical data

Electrical design	DC PNP
Operating voltage [V]	10...30 DC
Current consumption [mA]	< 10
Protection class	III
Reverse polarity protection	Yes
Power-on delay time [ms]	< 30

Outputs

Output function	Normally open
Voltage drop [V]	< 2.5
Current rating [mA]	100
Short-circuit protection	yes
Overload protection	yes
Switching frequency [Hz]	6 000

Range

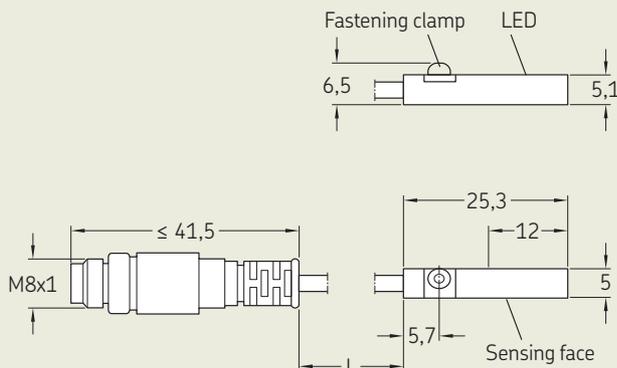
Magnetic sensitivity [mT]	2.0
Travel speed [m/s]	>10

Accuracy/deviations

Hysteresis [mm]	1,0
Repeatability [mm]	<0,2
Ambient temperature [°C]	-25...85

Environment

Protection	IP 65 / IP 67
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Tests/approvals

EMC	EN 61000-4-2 ESD: EN 61000-4-3 HF radiated: EN 61000-4-4 Burst: EN 61000-4-6 HF conducted: EN 55011:	-CD / 8 kV AD 10 V/m (80...2 000 MHz) 2 kV 10 V (0.15...80 MHz) class B
MTTF [Years]	2064	

Mechanical data

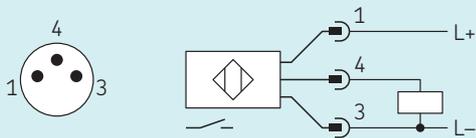
Mounting	Flush mountable
Housing materials	Housing: PA (polyamide); Fastening clamp: stainless steel
Weight [kg]	0,015

Displays/operating elements

Output status indication LED	Yellow
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Electrical connection

Connection	PUR cable/0,3 m: with M8 connector, with turnable coupling ring
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Accessories

Accessories (included)	Rubber placeholder: cable clip
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Remarks

Remarks	cULus – Class 2 source required Clamping screw with combined slot/hexagon socket head AF 1.5
Pack quantity [piece]	1

E12231

Adapt tie rod/profile

Supplier: IFM ELECTRONIC

Products characteristics

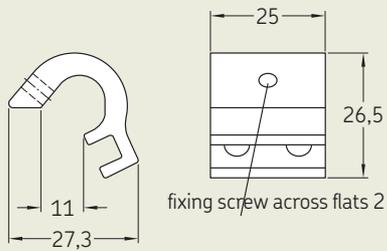
Adapter for tie rod / integrated profile cylinders
for type MKT

Mechanical data

Design	For types MKT (T-slot cylinder sensors)
Housing materials	Aluminium; screw: stainless steel
Clamping range	5..11
Weight [kg]	0,017

Remarks

Pack quantity [piece]	1
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C. LEMC motor assembly instructions

The purpose of the following document is to give basic information and advice for motor assembly on the LEMC actuator range, based on standard motor interfaces given in the LEMC catalogue **PUB MT/P2 16502 EN**. Either for in line or parallel interfaces.

If another brand of motor has to be assembled, please refer to the dedicated drawing if it exists, or contact SKF.

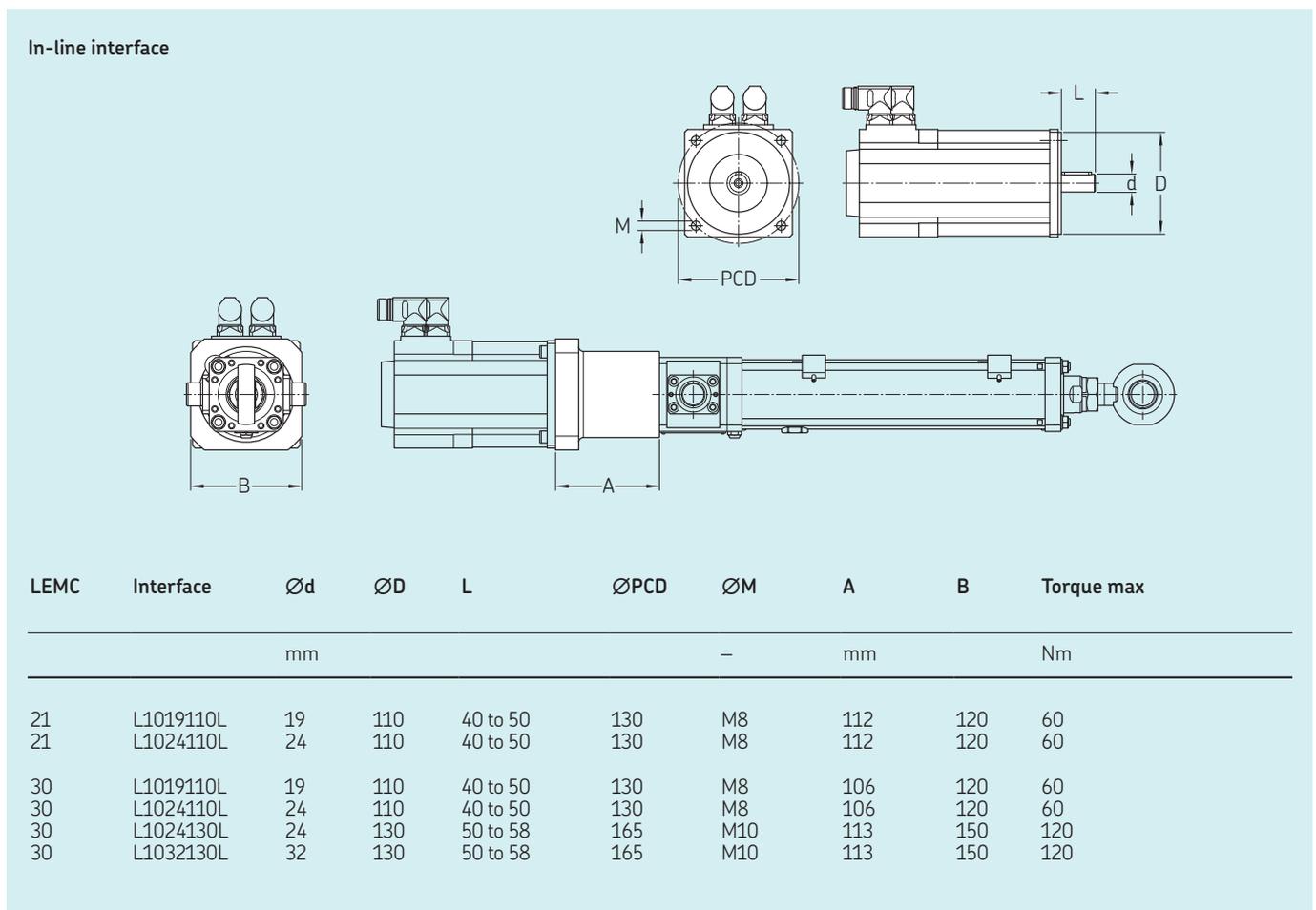
1. Standard motor interface list

Standard motor interface list								
Layout LEMC size Ratio	Inline		Parallell					
	21 1:1	30 1:1	1:1	21 3:2	2:1	1:1	30 3:2	2:1
Lenze								
MCS 12	L1019110L	L1019110L	P1019110L	P1519110L	P2019110L	P1019110L	P1519110L	P2019110L P2019110H
MCS 14		L1024130L				P1024130L P1024130H	P1524130H	P2024130H
Siemens								
1FK706	L1024110L	L1024110L	P1024110L	P1524110L	P2024110L	P1024110L	P1524110L	P2024110L P2024110H
1FK708		L1032130L				P1032130L P1032130H	P1532130H	P2032130H
Parker								
NX6	L1024110L	L1024110L	P1024110L	P1524110L	P2024110L	P1024110L	P1524110L	P2024110L P2024110H
NX8		L1032130L				P1032130L P1032130H	P1532130H	P2032130H
For other motors, please contact SKF								

2. In-line motor interface

This chapter gives basic information and instructions for motor assembly with coupling transmission.

a. Dimensional information

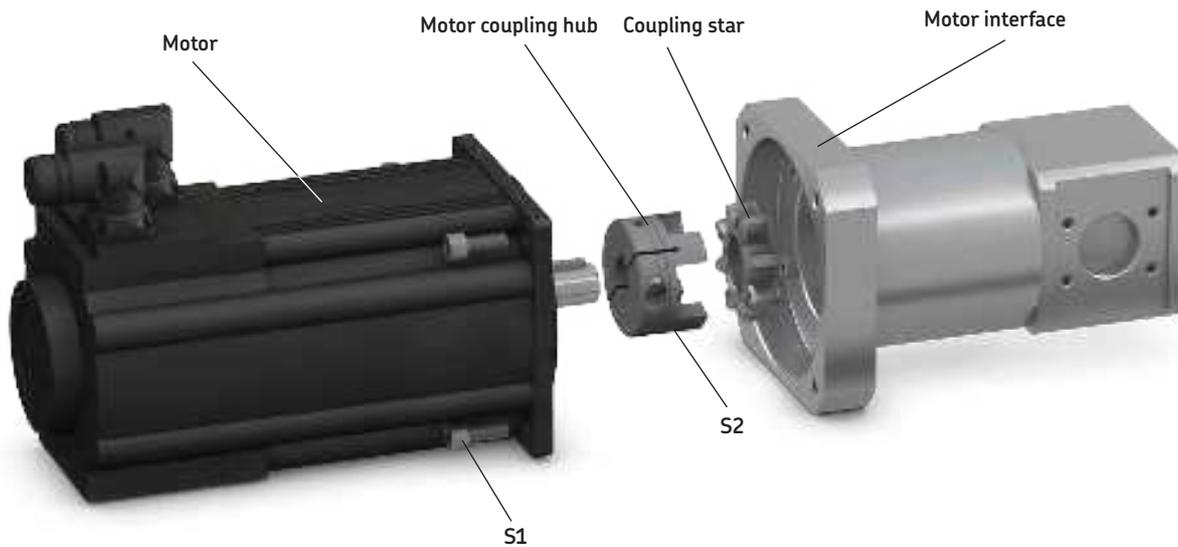


b. Screws and tightening torque M_A

Table 1

Screws and tightening torque M_A					
LEMC	Interface	S1 Motor screw	M_A	S2 Coupling screw	M_A
–	–	–	Nm	–	Nm
21	L1019110L	M8x20	25	M6	10
21	L1024110L	M8x20	25	M6	10
30	L1019110L	M8x20	25	M6	10
30	L1024110L	M8x20	25	M6	10
30	L1024130L	M10x30	49	M8	25
30	L1032130L	M10x30	49	M8	25

Note: SKF advise a light thread locking glue on all screws, except S2 on the coupling.



c. Coupling installation on motor shaft

Actuator is delivered with the motor interface mounted and the coupling hub installed on screw shaft.

The coupling hub on the motor shaft has to be installed by the customer.

Note that all couplings used are for assembly to motor shafts with a keyway.

Step 1: Separate the motor coupling hub from the rest of the coupling (the coupling star has to remain on the actuator coupling hub).

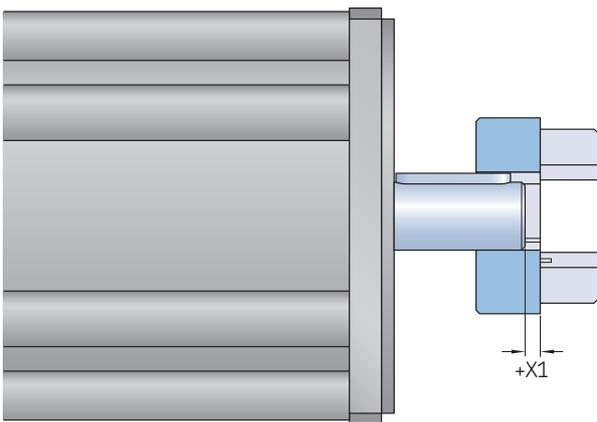
Step 2: Push the coupling hub onto the motor shaft (do not tighten the radial fixing screw (S2)).

Step 3: Align the coupling hub on the motor shaft as per information in **table 2**.

Step 4: Tighten the radial fixing screw (S2) as specified in **table 1**.

Table 2

LEMC	Interface	Motor brand	Motor X1
			mm
21	L1019110L	Lenze / MCS12	+1,5
21	L1024110L	Siemens / 1FK706 Parker / NX6	-4,5 -4,5
30	L1019110L	Lenze / MCS12	+1,8
30	L1024110L	Siemens / 1FK706 Parker / NX6	-4,2 -4,2
30	L1024130L	Lenze / MCS14	+1,5
30	L1032130L	Siemens / 1FK708 Parker / NX8	-1 -1



d. Motor installation on the motor interface

Step 1: Fit the motor on the motor interface. When assembling, make sure that the coupling is properly seated and each coupling hub aligned.

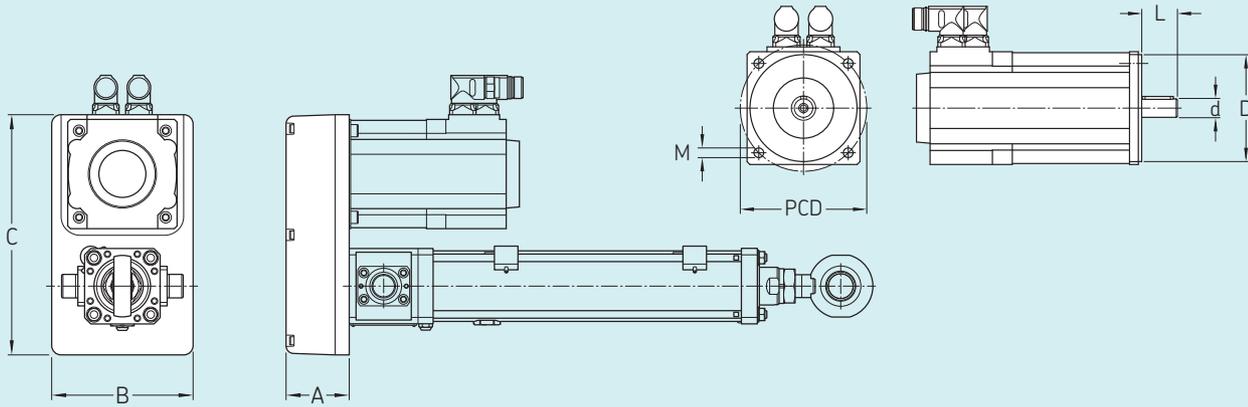
Step 2: Tighten the fixing screws (S1) to the torque specified in **table 1**.

3. Parallel motor interface

This chapter gives basic information and instructions for motor assembly with belt transmission.

a. Dimensional information

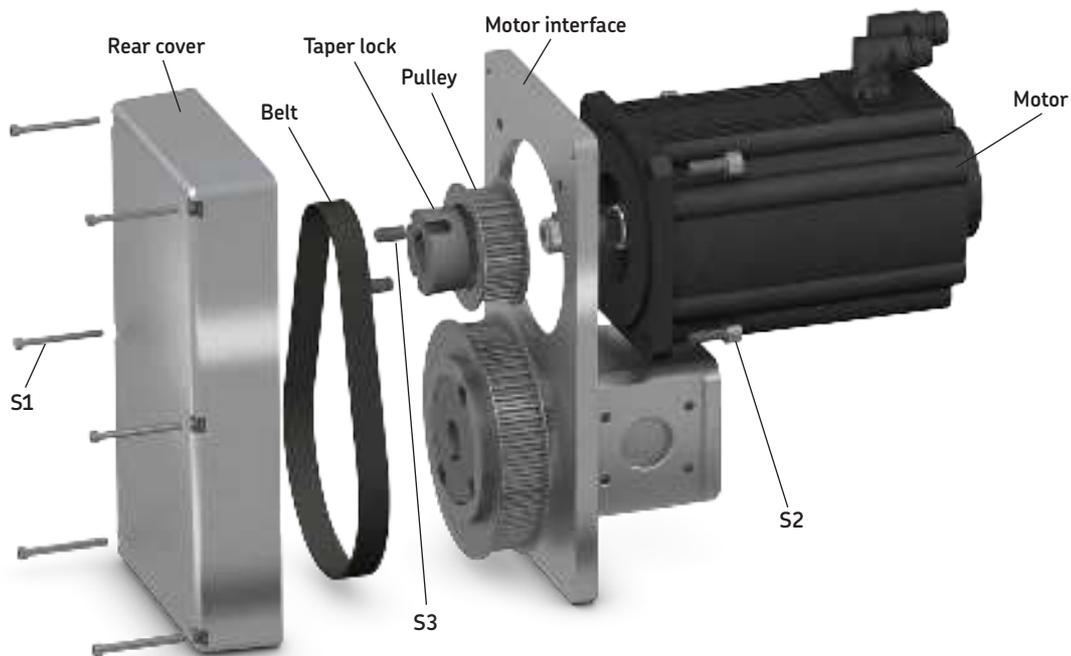
Parallel interface



LEMC	Interface	Ød	ØD	L	ØPCD	ØM	A	B	C	Torque max
		mm				—	mm			Nm
21	P1019110L	19	110	40 to 50	130	M8	67	150	255	40
21	P1024110L	24	110	40 to 50	130	M8	67	150	255	40
21	P1519110L	19	110	40 to 50	130	M8	67	150	255	25
21	P1524110L	24	110	40 to 50	130	M8	67	150	255	25
21	P2019110L	19	110	40 to 50	130	M8	67	150	255	20
21	P2024110L	24	110	40 to 50	130	M8	67	150	255	20
30	P1019110L	19	110	40 to 50	130	M8	72	180	325	55
30	P1024110L	24	110	40 to 50	130	M8	72	180	325	55
30	P1024130L	24	130	50 to 58	165	M10	72	180	325	55
30	P1024130H	24	130	50 to 58	165	M10	72	180	325	90
30	P1032130L	32	130	50 to 58	165	M10	72	180	325	55
30	P1032130H	32	130	50 to 58	165	M10	72	180	325	90
30	P1519110L	19	110	40 to 50	130	M8	72	180	325	40
30	P1524110L	24	110	40 to 50	130	M8	72	180	325	40
30	P1524130H	24	130	50 to 58	165	M10	72	180	325	100
30	P1532130H	32	130	50 to 58	165	M10	72	180	325	100
30	P2019110L	19	110	40 to 50	130	M8	72	180	325	35
30	P2019110H	19	110	40 to 50	130	M8	72	180	325	70
30	P2024110H	24	110	40 to 50	130	M8	72	180	325	40
30	P2024110L	24	110	40 to 50	130	M8	72	180	325	70
30	P2024130H	24	130	50 to 58	165	M10	72	180	325	70
30	P2032130H	32	130	50 to 58	165	M10	72	180	325	70

b. Screws and tightening torque M_A

LEMC	Interface	S1 Rear cover screw	M_A	S2 Motor screw	M_A
–	–	–	Nm	–	Nm
21	Pxx19110L	M5x50	6 Nm	M8x20	25 Nm
21	Pxx24110L	M5x50	6 Nm	M8x20	25 Nm
30	Pxx19110L	M5x55	6 Nm	M8x20	25 Nm
30	Pxx19110H	M5x55	6 Nm	M8x20	25 Nm
30	Pxx24110L	M5x55	6 Nm	M8x20	25 Nm
30	Pxx24110H	M5x55	6 Nm	M8x20	25 Nm
30	Pxx24130L	M5x55	6 Nm	M10x25	49 Nm
30	Pxx24130H	M5x55	6 Nm	M10x25	49 Nm
30	Pxx32130L	M5x55	6 Nm	M10x25	49 Nm
30	Pxx32130H	M5x55	6 Nm	M10x25	49 Nm



c. Pulley installation on motor shaft

Actuator is delivered with the motor interface mounted and the pulley installed on screw shaft.

The pulley on the motor shaft has to be installed by the customer.

Belt is assembled with a fixed axis distance between the pulleys. In consequence there is no need to adjust the tension of the belt.

Note that all taper locks used are for assembly to motor shafts with a keyway.

Step 1: Dismount the rear cover from the actuator.

Step 2: Insert the taper lock on the pulley and screw by hand the fixing screws (S3) of the taper lock (do not tighten the screws). For more instructions see taper lock installation manual delivered with the parts.

Step 3: Push the pulley + taper lock onto the motor shaft, aligning the keyway with the groove.

Step 4: Align the coupling hub on the motor shaft as per as per information in **table 4**.

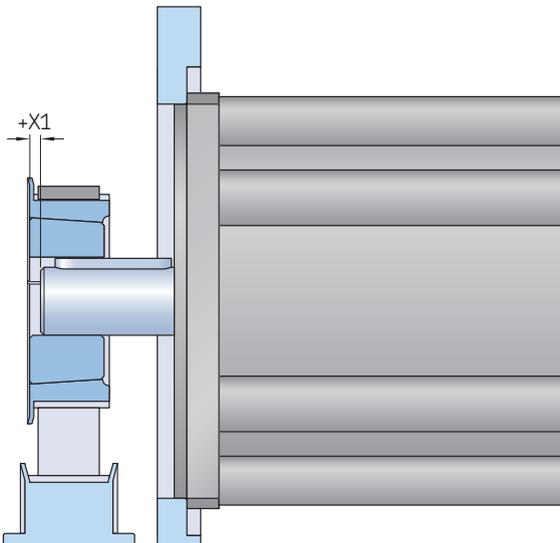
Step 5: Tighten the screws (S3) as specified in **table 4**.

Table 4

LEMC	Interface	Motor Brand	Motor X1	Taper Lock	S3 (on taper lock) n°	M _A
–	–	–	mm	–	–	Nm
21	P1019110L	Lenze / MCS12	+2,9	1610 D19	2	20
21	P1024110L	Siemens / 1FK706 Parker / NX6	-7,1 -7,1	1610 D24 1610 D24	2 2	20 20
21	P1519110L	Lenze / MCS12	+2,9	1108 D19	2	5,5
21	P1524110L	Siemens / 1FK706 Parker / NX6	-7,1 -7,1	1108 D24 1108 D24	2 2	5,5 5,5
21	P2019110L	Lenze / MCS12	+5,3	1008 D19	2	5,5
21	P2024110L	Siemens / 1FK706 Parker / NX6	-4,7 -4,7	1008 D24 ¹⁾ 1008 D24 ¹⁾	2 2	5,5 5,5
30	P1019110L	Lenze / MCS12	0	1610 D19	2	20
30	P1024110L	Siemens / 1FK706 Parker / NX6	-10 -10	1610 D24 1610 D24	2 2	20 20
30	P1024130L	Lenze / MCS14	-7	1610 D24	2	20
30	P1024130H	Lenze / MCS14	-7	1610 D24	2	20
30	P1032130L	Siemens / 1FK708 Parker / NX8	-15 -15	1610 D32 1610 D32	2 2	20 20
30	P1032130H	Siemens / 1FK708 Parker / NX8	-15 -15	1610 D32 1610 D32	2 2	20 20
30	P1519110L	Lenze / MCS12	0	1610 D19	2	20
30	P1524110L	Siemens / 1FK706 Parker / NX6	-10 -10	1610 D24 1610 D24	2 2	20 20
30	P1524130H	Lenze / MCS14	0	1610 D24	2	20
30	P1532130H	Siemens / 1FK708 Parker / NX8	-8 -8	1610 D32 1610 D32	2 2	20 20
30	P2019110L	Lenze / MCS12	0	1108 D19	2	5,5
30	P2019110H	Lenze / MCS12	+7	1610 D19	2	20
30	P2024110L	Siemens / 1FK706 Parker / NX6	-10 -10	1108 D24 1108 D24	2 2	5,5 5,5
30	P2024110H	Siemens / 1FK706 Parker / NX6	-3 -3	1610 D24 1610 D24	2 2	20 20
30	P2024130H	Lenze / MCS14	0	1610 D24	2	20
30	P2032130H	Siemens / 1FK708 Parker / NX8	-8 -8	1610 D32 1610 D32	2 2	20 20

¹⁾ Taper lock with reduced keyway – see appendix

Note: SKF advise a light thread locking glue on all screws, including S3 on taper lock.



d. Belt and motor installation on the mounting plate interface

Step 1: Fit the belt on the pulley that is already mounted on the actuator shaft (belt has to be placed in the middle of the pulley).

Step 2: Fit the motor on the motor interface. When assembling, be sure to tilt the motor to insert the pulley + motor on the belt.

Step 3: Tighten the fixing screws (S2) to the torque specified in **table 3**.

Step 4: Check that the belt has not moved and is still in the middle of the pulleys. If not adjust the position.

Step 5: Remount the rear cover, and tighten the screws (S1) to the torque specified in **table 3**.

SER-SIT taper lock bushing

SER-SIT taper lock bush is designed to give the following:

- 1 Perfect assembly;
- 2 Rapid dismantling of the pulley and other transmission equipment;
- 3 No special tools requirement except hexagonal key.

The large range of finished bores available ensures that an immediate assembly can be made thus avoiding costly factory down-time.

The bushes are machined with keyways in accordance with UNI and DIN specifications. This is in addition to clamping screws which, in many cases, are sufficient to meet the required torque.

Fastening by SER-SIT bushes allows the removal of any clearance between hub and bore so that fretting corrosion is positively eliminated. SER-SIT bushes are interchangeable with all similar types sold throughout the world.



SER-SIT taper lock bushings

Taper lock bushings

Type	Diameter of the bore	Bush length	max. diameter	Screws amount	withworth	length	set screw wrenchtype	Ms
mm/in	mm					mm		Nm
1008 (25.20)	9, 10, 11, 12, 14, 15, 16, 18, 19, 20, 22, 24 ¹⁾ , 25 ¹⁾ 3/8, 1/2, 5/8, 3/4, 7/8, 1 ¹⁾	22,3	35	2	1/4	13	3	5,5
1108 (28.20)	9, 10, 11, 12, 14, 15, 16, 17, 18, 19, 20, 22, 24, 25, 26, 27 , 28 ¹⁾ 3/8, 1/2, 5/8, 3/4, 7/8, 1, 1 1/8	22,3	38	2	1/4	13	3	5,5
1210 (30.25)	11, 12, 14, 15, 16, 18, 19, 20, 22, 24, 25, 26, 28, 30 , 32 1/2, 5/8, 3/4, 7/8, 1, 1 1/8, 1 1/4 , 1 1/2	25,4	47	2	3/8	16	5	20
1215 (30.40)	11, 12, 14, 15, 16, 18, 19, 20, 22, 24, 25, 26, 28, 30 , 32 1/2, 5/8, 3/4, 7/8, 1, 1 1/8, 1 1/4	38,1	47	2	3/8	16	5	20
1310 (35.25)	12, 14, 15, 16, 18, 19, 20, 22, 24, 25, 28, 30, 32, 35 ¹⁾ 1/2, 5/8, 3/4, 7/8, 1, 1 1/8, 1 1/4, 1 3/8	25,4	52	2	3/8	16	5	20
1610 (40.25)	12, 14, 15, 16, 18, 19, 20, 22, 24, 25, 26, 28, 30, 32, 35, 38, 40 , 42 3/8, 1/2, 5/8, 3/4, 7/8, 1, 1 1/8, 1 1/4, 1 3/8, 1 1/2, 1 5/8	25,4	57	2	3/8	16	5	20
1615 (40.40)	12, 14, 15, 16, 18, 19, 20, 22, 24, 25, 28, 30, 32, 35, 38, 40 , 42 ¹⁾ 1/2, 5/8, 3/4, 7/8, 1, 1 1/8, 1 1/4, 1 3/8, 1 1/2, 1 5/8 ¹⁾ , 1 3/4 ¹⁾	38,1	57	2	3/8	16	5	20
2012 (50.30)	14, 15, 16, 18, 19, 20, 22, 24, 25, 26, 28, 30, 32, 35, 38, 40, 42, 45, 48, 50 5/8, 3/4, 7/8, 1, 1 1/8, 1 1/4, 1 3/8, 1 1/2, 1 5/8, 1 3/4, 1 7/8, 2	31,8	70	2	7/16	22	5	30
2517 (65.45)	16, 18, 19, 20, 22, 24, 25, 28, 30, 32, 35, 38, 40, 42, 45, 48, 50, 55, 60, 65 ¹⁾ 3/4, 7/8, 1, 1 1/8, 1 1/4, 1 3/8, 1 1/2, 1 5/8, 1 3/4, 1 7/8, 2, 2 1/8, 2 1/4, 2 3/8, 2 1/2	44,5	85	2	1/2	25	6	50
3020 (75.50)	22, 25, 28, 30, 32, 35, 38, 40, 42, 45, 48, 50, 55, 57, 60, 65, 70, 75 1 1/4, 1 3/8, 1 1/2, 1 5/8, 1 3/4, 1 7/8, 2, 2 1/8, 2 1/4, 2 3/8, 2 1/2, 2 5/8, 2 3/4, 2 7/8 , 3	50,8	108	2	5/8	32	8	90
3030 (75.75)	25, 28, 30, 32, 35, 38, 40, 42, 45, 47, 48, 50, 55, 60, 65, 70, 75 1 1/4, 1 3/8, 1 1/2, 1 5/8, 1 3/4, 1 7/8, 2, 2 1/8, 2 1/4, 2 3/8, 2 1/2, 2 5/8, 2 3/4, 2 7/8 , 3							
3535 (90.90)	25, 28, 30, 32, 35, 38, 40, 42, 45, 48, 50, 55, 60, 65, 70, 75, 80, 85, 90 1 1/2, 1 5/8, 1 3/4, 1 7/8, 2, 2 1/8, 2 1/4, 2 3/8, 2 1/2, 2 5/8, 2 3/4, 2 7/8, 3, 3 1/8, 3 1/4, 3 3/8, 3 1/2 ¹⁾	88,9	127	3	1/2	38	10	115
4040 (100.100)	40, 42, 45, 48, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100 1 3/4, 2, 2 1/2, 2 3/4, 3 1/2, 3 3/4 ¹⁾ , 4 ¹⁾	101,6	146	3	5/8	44	14	170
4545 (115.115)	55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105, 110 3, 3 1/2, 4	114,3	162	3	3/4	51	14	195
5050 (125.125)	50, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105, 110, 115, 120, 125 3 1/2, 4	127	178	3	7/8	57	17	275

The first group of numbers indicates maximum bore, the second conventional length in mm.

Bore diameter marked in **bold** are made in steel instead of cast iron

Ms = screw tightening torque

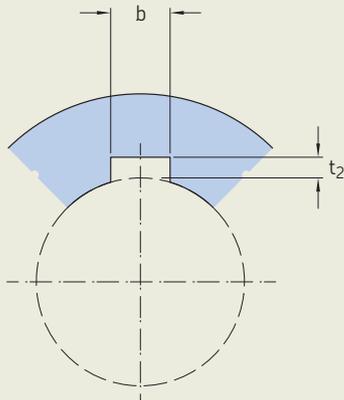
¹⁾ Reduced keyway

Keyway, UNI 6604-69 / DIN 6885

Bore diameter	b	t ₂	Bore diameter	b	t ₂
mm			in		
9-10	3	1,4	3/8-1/2	1/8	1/16
11-12	4	1,8	9/16-3/4	3/16	3/32
13-17	5	2,3	13/16-1	1/4	1/8
18-22	6	2,8	1 1/16-1 1/4	5/16	1/8
23-30	8	3,3	1 5/16-1 1/2	3/8	1/8
31-38	10	3,3	1 5/8-1 3/4	7/16	5/32
39-44	12	3,3	1 7/8-2	1/2	5/32
45-50	14	3,8	2 1/8-2 1/2	5/8	7/32
51-58	16	4,3	2 5/8-3	3/4	1/4
59-65	18	4,4	3 1/8-3 1/2	7/8	5/16
66-75	20	4,9	3 3/4-4	1	3/8
76-85	22	5,4			
86-95	25	5,4			
96-110	28	6,4			
111-130	32	7,4			

Keyway on SER-SIT taper bush (B.S. 46)

Bore diameter	b	t ₂
in		
3/8-1/2	1/8	1/16
9/16-3/4	3/16	3/32
13/16-1	1/4	1/8
1 1/16-1 1/4	5/16	1/8
1 5/16-1 1/2	3/8	1/8
1 5/8-1 3/4	7/16	5/32
1 7/8-2	1/2	5/32
2 1/8-2 1/2	5/8	7/32
2 5/8-3	3/4	1/4
3 1/8-3 1/2	7/8	5/16
3 3/4-4	1	3/8
4 1/4-5	1 1/4	7/16



Reduced keyway only when the undermentioned bores are the maximum bores and only in the bushing types shown in table

Bore diameter	Bushing type	b	t ₂
mm	–	mm	
24 – 25	1008	8	1,3
28	1108	8	1,3
35	1310	10	1,3
42	1615	12	2,2
65	2517	18	3,3

Bore diameter	Bushing type	b	t ₂
in	–	in	
1	1008	1/4	1/16
1 1/8	1108	5/16	5/64
1 5/8 – 1 3/4	1615	7/16	1/8
3 1/2	3535	7/8	1/4
3 3/4 – 4	4040	1	1/4

Assembly and dismantling of SER-SIT conical bushing

- Before fitting the bushing, carefully clean the bore and conical parts.
- Fit the bushing into the pulley, taking care to let threaded half-holes of the pulley coincide with the unthreaded holes of the bushing.
- Hand tighten the screws
- Fit the pulley to the hub after carefully cleaning it. Position it and tighten the screws alternately.
- Dismantling: remove screws and replace one screw in the jacking hole provided and tighten until hub is released.

NOTE: Ensure that the key does not bottom in the keyway. Clearance is recommended in the keyway bottom.

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