

**Damping rods** reduce the noise level and dampen vibrations.

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**1 Technical data**

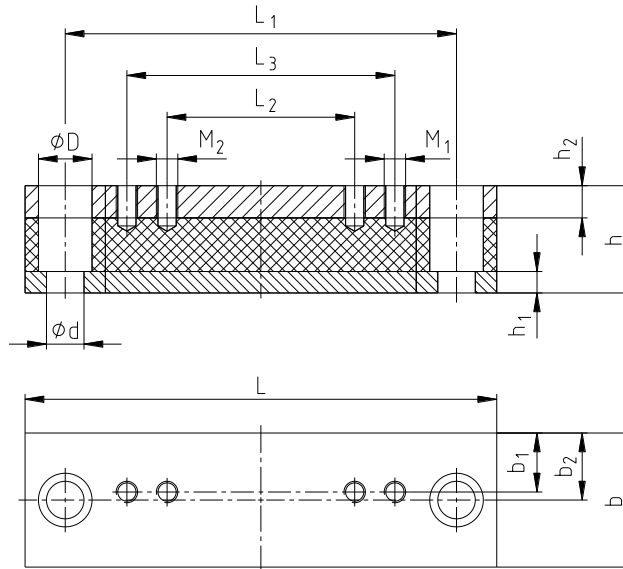


Illustration 1: Dimensions of damping rods

**Table 1: Type DSM for electric motors type IMB 35, protection class IP54**

Size	For motor size	Dimensions [mm]													
		L	L <sub>1</sub>	L <sub>2</sub>	L <sub>3</sub>	h	h <sub>1</sub>	h <sub>2</sub>	b	b <sub>1</sub>	b <sub>2</sub>	d	D	M <sub>1</sub>	M <sub>2</sub>
DSM 71	71	196	156	90	-	40	8	12	50	21	25	14	20	M6	-
DSM 80	80	176	146	100	-	40	8	12	50	22	25	14	20	M8	-
DSM 90 S	90 S	196	156	100	-	40	8	12	50	24.5	25	14	20	M8	-
DSM 90 L	90 L	240	205	125	-	40	8	12	50	24	25	14	20	M8	-
DSM 100 L	100 L	240	205	140	-	40	8	12	50	22	25	14	20	M10	-
DSM 112 M	112 M														
DSM 132 S	132 S	280	245	140	178	45	8	12	50	20	25	14	20	M10	M10
DSM 132 M	132 M														
DSM 160 M	160 M	340	300	210	-	60	15	15	70	28	35	18	26	M12	-
DSM 160 L	160 L	416	370	254	-	60	15	15	70	28	35	18	26	M12	-
DSM 180 M	180 M	416	370	241	-	60	15	15	70	35	35	18	26	M12	-
DSM 180 L	180 L	446	400	279	-	60	15	15	70	35	35	18	26	M12	-
DSM 200 L	200 L	492	430	305	-	60	15	15	70	35	35	22	33	M16	-
DSM 225 S	225 S	492	430	286	-	60	15	15	70	35	35	22	33	M16	-
DSM 225 M	225 M														
DSM 250 M	250 M	492	445	349	-	60	15	15	100	50	50	22	33	M20	-
DSM 280 S	280 S	614	570	368	419	60	15	15	100	50	50	22	33	M20	M20
DSM 280 M	280 M														
DSM 315 S	315 S	614	570	406	457	60	15	15	120	60	60	22	33	M24	M24
DSM 315 M	315 M														
DSM 315 L	315 L	704	660	508	-	60	15	15	120	60	60	22	33	M24	-



**1 Technical data**

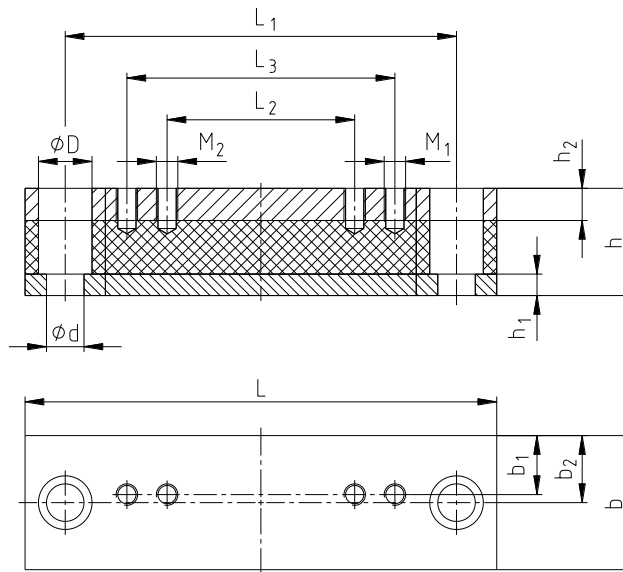


Illustration 1: Dimensions of damping rods

**Table 2: Type DSFL for foot flange type PTFL**

Size	For foot flange	Dimensions [mm]													
		L	L <sub>1</sub>	L <sub>2</sub>	L <sub>3</sub>	h	h <sub>1</sub>	h <sub>2</sub>	b	b <sub>1</sub>	b <sub>2</sub>	d	D	M <sub>1</sub>	M <sub>2</sub>
DSFL 160	PTFL 160	176	130	50	-	40	8	12	50	10	25	14	20	M8	-
DSFL 200	PTFL 200	176	130	60	-	40	8	12	50	15	25	14	20	M10	-
DSFL 250	PTFL 250	230	140	60	-	40	8	12	50	15	25	14	20	M12	-
DSFL 300	PTFL 300	270	170	80	-	40	8	12	50	15	25	14	20	M12	-
DSFL 350	PTFL 350	305	200	110	-	60	15	15	70	25	35	18	26	M16	-

**Table 3: Type DSFS for foot flange type PTFS**

Size	For foot flange	Dimensions [mm]													
		L	L <sub>1</sub>	L <sub>2</sub>	L <sub>3</sub>	h	h <sub>1</sub>	h <sub>2</sub>	b	b <sub>1</sub>	b <sub>2</sub>	d	D	M <sub>1</sub>	M <sub>2</sub>
DSFS 200	PTFS 200	245	205	150	-	40	8	12	50	19	25	13	20	M10	-
DSFS 250	PTFS 250	240	140	185	-	40	8	12	50	17.5	25	13	20	M12	-
DSFS 250/300L	PTFS 250/300L	340	300	185	225	40	8	12	50	17.5	32.5	13	20	M12	M12
DSFS 300	PTFS 300	280	180	225	-	40	8	12	50	17.5	25	13	20	M12	-
DSFS 350	PTFS 350	325	200	265	-	60	15	15	70	25	35	17	26	M16	-
DSFS 350/400 L	PTFS 350/400 L	430	390	265	300	60	15	15	70	25	45	18	26	M16	M16
DSFS 400	PTFS 400	350	234	300	-	60	15	15	70	25	35	17	26	M16	-
DSFS 450	PTFS 450	385	270	335	-	60	15	15	70	25	35	17	26	M16	-
DSFS 450 L	PTFS 450 L	465	425	335	-	60	15	15	70	25	35	18	26	M16	-
DSFS 550	PTFS 550	490	350	415	-	60	15	15	100	25	50	18	26	M16	-
DSFS 660	PTFS 660	635	415	495	-	60	15	15	100	30	50	22	33	M20	-

**Table 4: Type DKS for PIK oil cooler**

Size	For foot flange	Dimensions [mm]													
		L	L <sub>1</sub>	L <sub>2</sub>	L <sub>3</sub>	h	h <sub>1</sub>	h <sub>2</sub>	b	b <sub>1</sub>	b <sub>2</sub>	d	D	M <sub>1</sub>	M <sub>2</sub>
DSK 200	PIK 200	240	210	154.5	-	40	8	12	50	25	25	14	20	M12	-
DSK 250	PIK 250	270	240	175.5	-	40	8	12	50	25	25	14	20	M12	-
DSK 300	PIK 300	280	250	199.5	-	45	8	12	50	25	25	14	20	M12	-
DSK 350	PIK 350	325	295	243.5	-	60	15	15	70	35	35	14	20	M12	-



**Please order our special data sheet for special damping rods type SDS.**

Please observe protection note ISO 16016.	Drawn:	2021-02-24 Pz/Str	Replacing:	KTR-N dated 2021-02-16
	Verified:	2021-02-24 Pz	Replaced by:	

**2 Advice****2.1 General advice**

Please read carefully through these operating/assembly instructions before you start up the damping rod. Please pay special attention to the safety instructions!

The operating/assembly instructions are part of your product. Please store them carefully and close to the damping rods. The copyright for these operating/assembly instructions remains with KTR.

**2.2 Safety and advice symbols****Warning of personal injury**

This symbol indicates notes which may contribute to preventing bodily injuries or serious bodily injuries that may result in death.

**Warning of product damages**

This symbol indicates notes which may contribute to preventing material or machine damage.

**General advice**

This symbol indicates notes which may contribute to preventing adverse results or conditions.

**2.3 General hazard warnings**

**With assembly and disassembly of the damping rods it has to be made sure that the entire drive train is secured against accidental switch-on. You may be seriously hurt by rotating parts. Please make absolutely sure to read through and observe the following safety indications.**

- All operations on and with the damping rods have to be performed taking into account "safety first".
- Please make sure to switch off the power pack before you perform your work on the damping rods.
- Secure the power pack against accidental switch-on, e. g. by providing warning signs at the place of switch-on or removing the fuse for current supply.
- Do not reach into the operation area of the machine as long as it is in operation.
- Please secure the rotating drive components against accidental contact. Please provide for the necessary protection devices and covers.

**2.4 Intended use**

You may only assemble and disassemble the damping rods if you

- have carefully read through the operating/assembly instructions and understood them
- are technically qualified and specifically trained (e. g. safety, environment, logistics)
- are authorized by your company

The damping rod may only be used in accordance with the technical data (see chapter 1). Unauthorized modifications on the damping rods are not admissible. We will not assume liability for any damage that may arise. In the interest of further development we reserve the right for technical modifications.

The **damping rod** described in here corresponds to the technical status at the time of printing of these operating/assembly instructions.



**3 Storage, transport and packaging**

**3.1 Storage**

The damping rods are supplied in preserved condition and can be stored at a dry and covered place for 6 - 9 months.



**The storage rooms must not include any ozone-generating devices like e. g. fluorescent light sources, mercury-vapour lamps or electrical high-voltage appliances. Humid storage rooms are not suitable. Please make sure that condensation is not generated. The best relative air humidity is less than 65 %.**

**3.2 Transport and packaging**



**In order to avoid any injuries and any kind of damage please always make use of proper transport and lifting equipment.**

The damping rods are packed differently each depending on size, number and kind of transport. Unless otherwise contractually agreed, packaging will follow the in-house packaging specifications of KTR.

**4 Assembly**

The damping rod is supplied ready for assembly.

**4.1 Load of damping rods**



**The standard damping rods (DSM, DSFL, DSFS, DSK) are selected in that they withstand the loads for intended use. Any deviations thereof (e. g. setups on the electric motor) must be agreed upon with KTR and approved before assembly.**

All damping rods are to be loaded on pressure only. Low tensile stresses, e. g. generated by the bending torque with horizontal mounting by uneven weight distribution, are permissible.



**Shear stresses are not permissible and are imperatively to be avoided.**

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**4 Assembly****4.2 Assembly of damping rods DSM with electric motor**

- The electric motor is fitted with its feet on the damping rods.



**The motor feet must fully fit on the damping rods.**

- Select the screw length of electric motor - damping rod as follows:  
screw length = thickness of motor foot +  
thread depth of damping rod (dimension  $h_2$ )
- Insert the screws with the washer through the motor foot and screw them in the respective thread of the damping rod. For tightening torques  $T_A$  see table 5.  
Screws generally have to be fitted with Loctite, Omnifit 230M or similar adhesives for fastening.

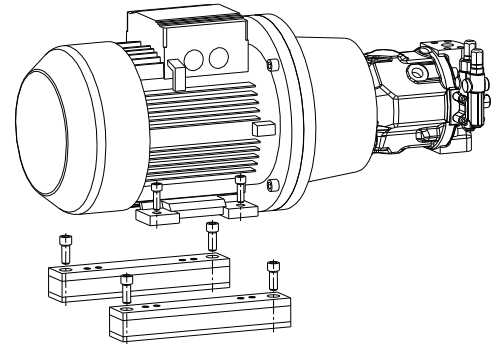


Illustration 2: Assembly of damping rods DSM with electric motor

- Insert the hexagon socket screws through the counterbores of the damping rods and screw them in the respective thread of the supporting surface (base plate). The tightening torque  $T_A$  complies with the material of the base plate and must be calculated before assembly.



**Please note that serious injuries (bruises) may be caused by tilting the drive. Secure the drive unit by relevant support devices.**

**Table 5: Tightening torques of the cap screws DIN EN ISO 4762**

Cap screws DIN EN ISO 4762 <sup>1)</sup>	M8	M10	M12	M16	M20	M24
Tightening torque $T_A$ [Nm] <sup>2)</sup>	25	49	86	210	410	710

1) min. property class 8.8

2) Tightening torque according to property class 8.8

**4.3 Assembly of damping rods DSFL with foot flange PTFL**

- The PTFL is fitted with its feet on the damping rods.



**The feet must fully fit on the damping rods.**

- Select the screw length of PTFL - damping rod as follows:  
screw length = thickness of foot +  
thread depth of damping rod (dimension  $h_2$ )
- Insert the screws with the washer through the PTFL foot and screw them in the respective thread of the damping rod. For tightening torques  $T_A$  see table 5.  
Screws generally have to be fitted with Loctite, Omnifit 230M or similar adhesives for fastening.

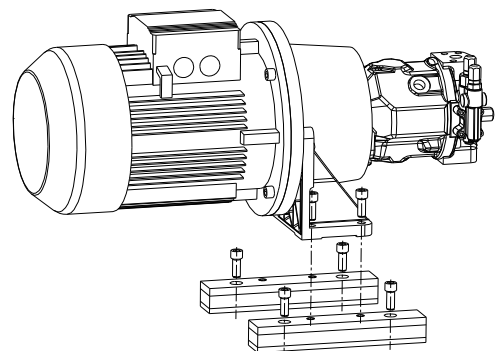


Illustration 3: Assembly of damping rods DSFL with foot flange PTFL

- Insert the hexagon socket screws through the counterbores of the damping rods and screw them in the respective thread of the supporting surface (base plate). The tightening torque  $T_A$  complies with the material of the base plate and must be calculated before assembly.



**Please note that serious injuries (bruises) may be caused by tilting the drive. Secure the drive unit by relevant support devices.**

**4 Assembly****4.4 Assembly of damping rods DSFS with foot flange PTFS**

- The PTFS is fitted with its feet on the damping rods.



**The feet must fully fit on the damping rods.**

- Select the screw length of PTFS - damping rod as follows:  
screw length = thickness of foot +  
thread depth of damping rod (dimension  $h_2$ )
- Insert the screws with washer through the PTFS foot and screw them in the respective thread of the damping rod. For tightening torques  $T_A$  see table 5.  
Screws generally have to be fitted with Loctite, Omnifit 230M or similar adhesives for fastening.

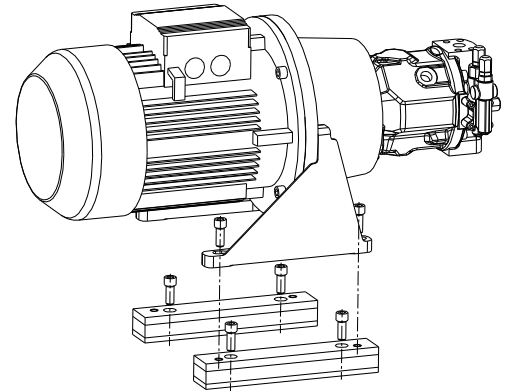


Illustration 4: Assembly of damping rods DSFS with foot flange PTFS

- Insert the hexagon socket screws through the counterbores of the damping rods and screw them in the respective thread of the supporting surface (base plate). The tightening torque  $T_A$  complies with the material of the base plate and must be calculated before assembly.



**Please note that serious injuries (bruises) may be caused by tilting the drive. Secure the drive unit by relevant support devices.**

**4.5 Assembly of damping rods DSK with PIK oil cooler**

- The PIK is fitted with its feet on the damping rods.



**The feet must fully fit on the damping rods.**

- Select the screw length of PIK - damping rod as follows: screw length = thickness of foot + thread depth of damping rod (dimension  $h_2$ )
- Insert the screws through the PIK foot and screw them in the respective thread of the damping rod. For tightening torques  $T_A$  see table 5.  
Screws generally have to be fitted with Loctite, Omnifit 230M or similar adhesives for fastening.

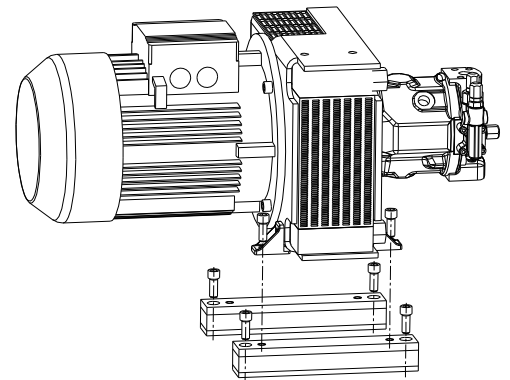


Illustration 5: Assembly of damping rods DSK with PIK oil cooler

- Insert the hexagon socket screws through the counterbores of the damping rods and screw them in the respective thread of the supporting surface (base plate). The tightening torque  $T_A$  complies with the material of the base plate and must be calculated before assembly.



**Please note that serious injuries (bruises) may be caused by tilting the drive. Secure the drive unit by relevant support devices.**

 <b>KTR-Group</b>	<b>Damping rods</b> <b>Operating/Assembly instructions</b>	KTR-N 42110 EN Sheet: 8 of 8 Edition: 2
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## 4 Assembly

### 4.6 Other information

Please observe the following KTR mounting instructions:

- Assembly instructions of foot flange → KTR-N 41110
- Assembly instructions of PIK oil cooler → KTR-N 41028

## 5 Disposal

In respect of environmental protection we would ask you to dispose of the packaging or products on termination of their service life in accordance with the legal regulations and standards that apply, respectively.

## 6 Spares inventory, customer service addresses

A basic requirement to ensure the readiness for use of the damping rods is a stock of the most important spare parts on site.

Contact addresses of the KTR partners for spare parts and orders can be obtained from the KTR homepage at [www.ktr.com](http://www.ktr.com).



**KTR does not assume any liability or warranty for the use of spare parts and accessories which are not provided by KTR and for the damages which may incur as a result.**

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