

The variants – thread inserts for ultrasonic installation **SONICSERT®**



Your advantages

- Suited for thermoplastic components
- Especially designed for ultrasonic installation
- Screw-locked and low-stress anchoring
- High pull-out values
- Type 0730 can be installed from both sides. Advantages for automatic feed since no directional orientation is required.

The principle

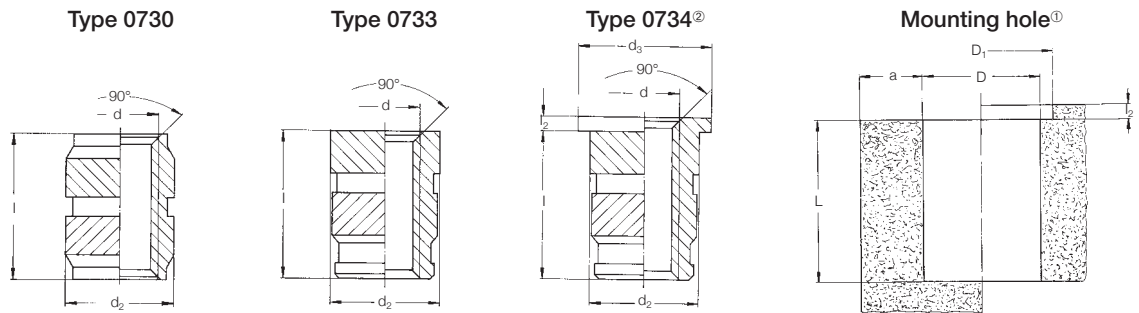
The SONICSERT® thread insert can be embedded using common ultrasonic welders. During welding, the plastic material plasticises in the welding area due to the ultrasonic vibrations and flows into the undercuts of the thread insert. During cooling, a low-stress interference fit is achieved.

Thermal installation or inductive insertion are preferable.



Technical data

Material: **brass CuZn38Pb2** (compliant with EU 2000/53) / **brass CuZn39Pb3** (steel 1.0718 11SMnPb30 as an option; surface to be agreed)



For installation tools and machines, please see pages 21–23

d	Type 0730 item code	Type 0733 item code	Type 0734 [®] item code	l	l ₂	d ₂	d ₃ [®]	D ^{+0.1} ^①	D ₁	L _{min.}	a _{min.}
M 1.2 [®]	–	–	0734 112 0290	2.9	0.4	2.0	2.6	1.6	2.8	3.3	0.65
M 1.4 [®]	0730 114 0002	–	–	2.0	–	2.2	–	1.9	–	2.5	0.70
	–	–	0734 114 0310	3.1	0.4	2.2	2.8	1.8	3.0	3.5	0.70
M 1.6 [®]	0730 116 0250	–	–	2.5	–	3.0	–	2.6	–	3.0	0.80
	–	–	0734 116 0330	3.3	0.4	2.5	2.9	2.1	3.1	3.7	0.80
M 2	0730 102 0004	0733 102 0004	0734 102 0046	4.0	0.6	3.6	5.0	3.2	5.2	4.5	2.00
M 2.5	0730 125 0058	0733 125 0058	0734 125 0064	5.8	0.6	4.6	6.0	4.0	6.2	6.5	2.30
M 3	0730 103 0058	0733 103 0058	0734 103 0064	5.8	0.6	4.6	6.0	4.0	6.2	6.5	2.30
M 3.5	0730 135 0072	0733 135 0072	0734 135 0008	7.2	0.8	5.4	7.0	4.8	7.2	8.0	2.50
M 4	–	0733 104 0072	–	7.2	–	6.3	–	5.6	8.2	8.0	2.50
	0730 104 0082	0733 104 0082	0734 104 0009	8.2	0.8	6.3	8.0	5.6	8.2	9.0	2.50
M 5	–	0733 105 0082	–	8.2	–	7.0	–	6.4	8.7	9.0	2.70
	0730 105 0095	0733 105 0095	0734 105 0105	9.5	1.0	7.0	8.5	6.4	8.7	10.5	2.70
M 6	–	0733 106 0095	–	9.5	–	8.6	–	8.0	10.2	10.5	3.00
	0730 106 0127	0733 106 0127	0734 106 0137	12.7	1.0	8.6	10.0	8.0	10.2	14.0	3.00
M 8	0730 108 0127	0733 108 0127	0734 108 0137	12.7	1.0	10.2	12.0	9.6	12.2	14.0	3.50

Metric ISO thread according to DIN 13-6H. Technical changes reserved. All measures in mm.

^① Guideline values: depend on the moulding material, may have to be changed after installation tests.

[®] The flange has a large contact surface and thus reduces the surface pressure. Minimum quantity on request.

[®] On request. Other sizes, special designs and materials on request.

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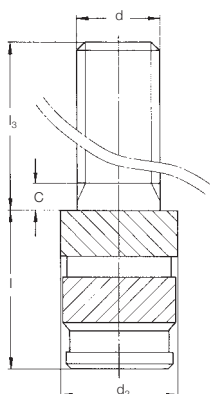
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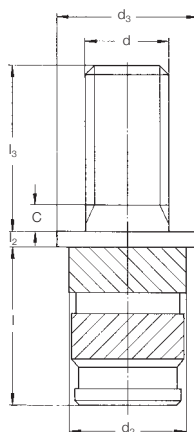
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Technical data

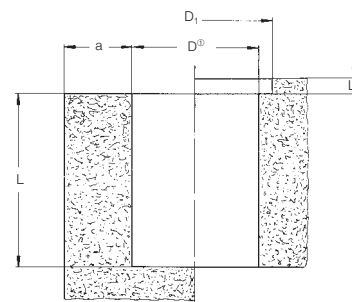
Type 0743



Type 0744[®]



Mounting hole^①



$$C_{\max} = 3P$$

For installation tools and machines, please see pages 21–23

d	Type 0743 item code	Type 0744 [®] item code	l	l ₂ /L ₂	l ₃	d ₂	d ₃ ^②	D ^{+0.1} ^①	D ₁	L _{min.}	a _{min.}
M 2	0743 102 0005	0744 102 0005	4.0	0.6	5.0	3.8	5.0	3.2	5.2	4.5	2.0
M 2.5	0743 125 0005	0744 125 0005	4.0	0.6	5.0	4.6	5.0	3.2	5.2	4.5	2.0
M 3	0743 103 0005	0744 103 0005	5.8	0.6	5.0	4.6	6.0	4.0	6.2	6.5	2.3
	0743 103 0010	0744 103 0010	5.8	0.6	10.0	4.6	6.0	4.0	6.2	6.5	2.3
M 3.5	0743 135 0005	0744 135 0005	7.2	0.8	5.0	5.4	7.0	4.8	7.2	8.0	2.5
	0743 135 0010	0744 135 0010	7.2	0.8	10.0	5.4	7.0	4.8	7.2	8.0	2.5
M 4	0743 104 0005	0744 104 0005	8.2	0.8	5.0	6.3	8.0	5.6	8.2	9.0	2.5
	0743 104 0010	0744 104 0010	8.2	0.8	10.0	6.3	8.0	5.6	8.2	9.0	2.5
M 5	0743 105 0010	0744 105 0010	9.5	1.0	10.0	7.0	8.5	6.4	8.7	10.5	2.7
	0743 105 0015	0744 105 0015	9.5	1.0	15.0	7.0	8.5	6.4	8.7	10.5	2.7
M 6	0743 106 0010	0744 106 0010	12.7	1.0	10.0	8.6	10.0	8.0	10.2	14.0	3.0
	0743 106 0015	0744 106 0015	12.7	1.0	15.0	8.6	10.0	8.0	10.2	14.0	3.0
M 8	0743 108 0010	0744 108 0010	12.7	1.0	10.0	10.0	12.0	9.6	12.2	14.0	3.5
	0743 108 0015	0744 108 0015	12.7	1.0	15.0	10.0	12.0	9.6	12.2	14.0	3.5

Metric ISO thread according to DIN 13-6g. Technical changes reserved. All measures in mm.

^① Guideline values: depend on the moulding material, may have to be changed after installation tests.

^② The flange has a large contact surface and thus reduces the surface pressure.



Above-mentioned items on request.

Other lengths, sizes, materials and special designs also on request.

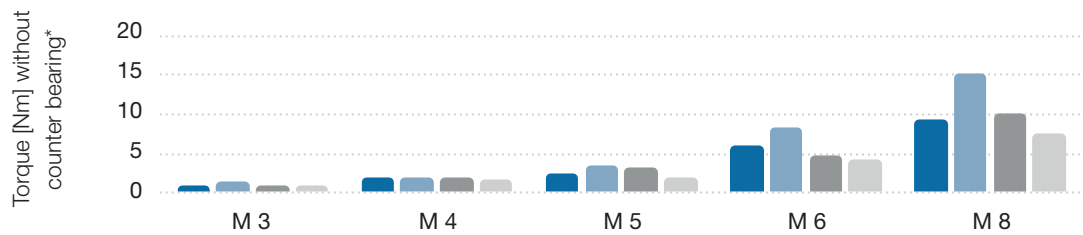
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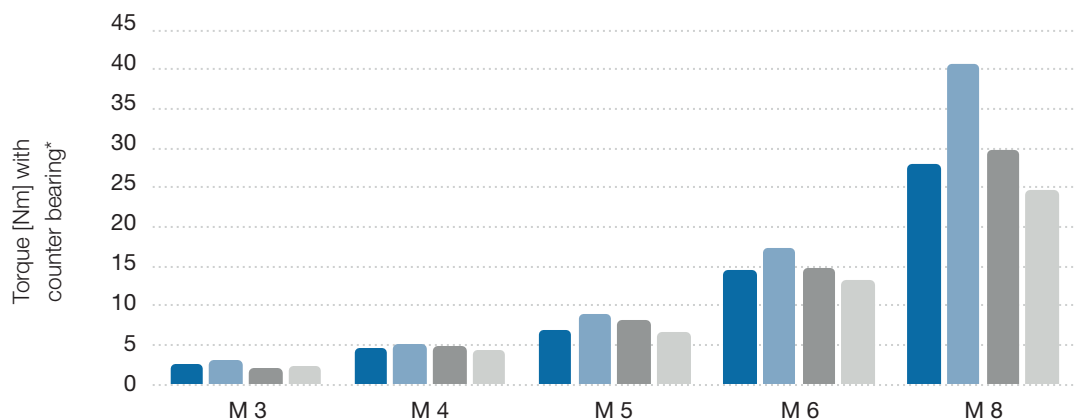
Torque values for SONICSERT® M 3 to M 8 tested in different materials



*Guideline values from laboratory tests where the joint is subjected to overstress.

		M 3	M 4	M 5	M 6	M 8
■ ABS	MA [Nm]	1.00	1.90	2.50	6.00	9.40
■ PC	MA [Nm]	1.40	1.90	3.50	8.40	15.30
■ PA	MA [Nm]	0.90	2.00	3.20	4.70	10.20
■ PE/PP	MA [Nm]	0.90	1.80	2.10	4.30	7.70

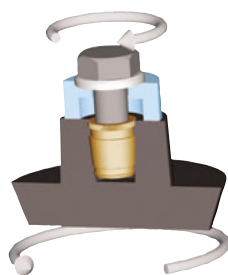
All measures in mm.



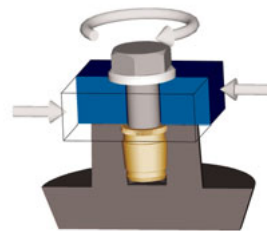
*Guideline values from laboratory tests where the joint is subjected to overstress.

		M 3	M 4	M 5	M 6	M 8
■ ABS	MR [Nm]	2.60	4.70	6.80	14.50	28.10
■ PC	MR [Nm]	3.00	5.20	8.90	17.40	40.80
■ PA	MR [Nm]	2.10	4.80	8.10	14.90	29.80
■ PE/PP	MR [Nm]	2.30	4.30	6.60	13.20	24.70

All measures in mm.



Torque without counter bearing (MA[Nm])**



Torque with counter bearing (MR[Nm])**
Through hole as per DIN EN 20273 (medium)

**In the MA test, comparative values can be determined. The test is not recommended for real screw joints.

***The values for MR are usually limited by the screw fracture. For the design with counter bearing, tightening torques for property class 8.8 as per VDI 2230 can be applied.

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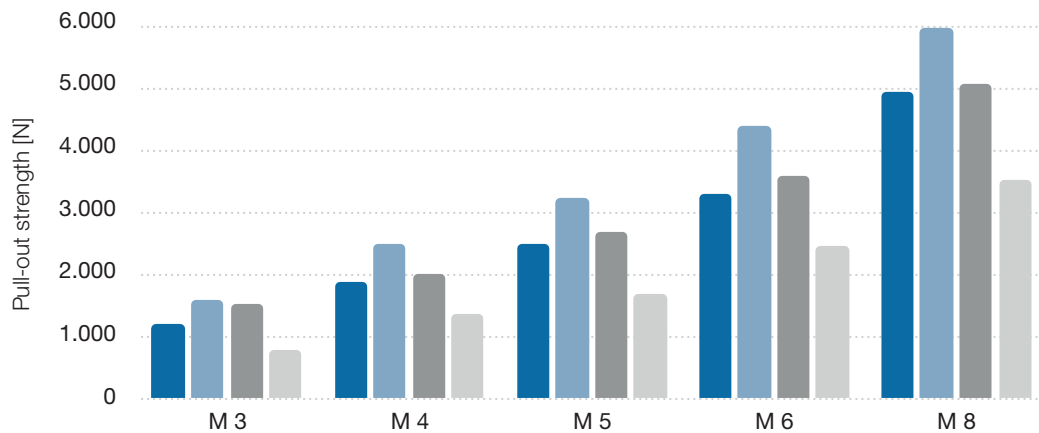
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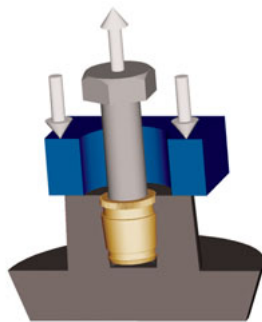
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Technical data

Pull-out values for SONICSERT® M 3 to M 8 tested in different materials



		M 3	M 4	M 5	M 6	M 8
■ ABS	FA [N]	1.215	1.890	2.520	3.330	4.950
■ PC	FA [N]	1.620	2.520	3.240	4.410	5.985
■ PA	FA [N]	1.530	2.025	2.700	3.600	5.085
■ PE/PP	FA [N]	810	1.395	1.710	2.475	3.555



Pull-out strength (FA[N])

Technical information

The specified values are guideline values. An application-specific installation test is recommended.

To be on the safe side, for fibre-reinforced plastics, the strengths of the non-reinforced material are to be assumed.

When using brass thread inserts in plastics susceptible to stress cracks (e.g. polycarbonate), we recommend an additional surface treatment for the thread inserts (nickel plating or surface coating as required).

You need strength values for other thread inserts? Please do not hesitate to contact us. We are happy to help.

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