

THE 5 ERRORS NOT TO MAKE

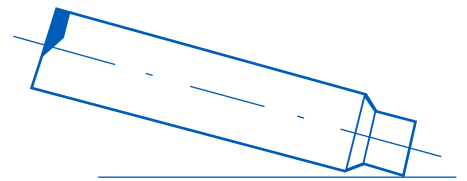
WHEN INSTALLING
A MELT SENSOR

Well begun is half done, says a popular Irish saying. Correct sensor installation is essential to ensure proper functioning and durability. Although the procedure may seem simple and straightforward, **it still hides pitfalls, which we want to help you avoid**. By paying attention to these suggestions you can significantly reduce the risk of finding yourself facing exactly the same problem you thought you had just solved.

HERE IS WHAT **NOT TO DO** WHEN INSTALLING A MELT SENSOR:

1 **DAMAGING THE MEASURING MEMBRANE**

The sensor is of very sturdy mechanical construction, but the measuring diaphragm is the most delicate part and can be damaged if handled incorrectly; it is therefore important to avoid striking or scratching the sensor tip during installation.



HOW TO AVOID IT?

Good quality sensors are usually supplied with a special plastic cap to protect the measuring membrane; it is good practice to use it to protect the membrane whenever the sensor is removed from its housing.

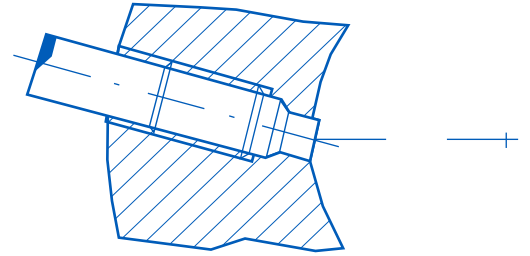
CORRECT SENSOR INSTALLATION PROCEDURE

- 1) Make sure that the mounting hole is machined correctly. If you install the sensor on a previously used hole, make sure that it is perfectly clean and free of plastic residues.
- 2) Remove the protective cap from the sensor tip.
- 3) Lubricate the thread with an anti-seizure grease such as Neverseez (Bostik), C5A (Felpro) or an equivalent product.
- 4) Insert the sensor into the hole, securing it firmly, first by hand and then with a wrench in 1/4 turn steps.
- 5) The recommended tightening torque is 50 Nm; the maximum torque is 56.5 Nm.

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CREATING A “MISALIGNED” HOUSING

The housing must be made in such a way as to faithfully respect the alignment of the holes and tapping. Note that if a hole or the tapping is off the axis by more than 0.2 mm, it could result in breakage of the transducer during assembly.

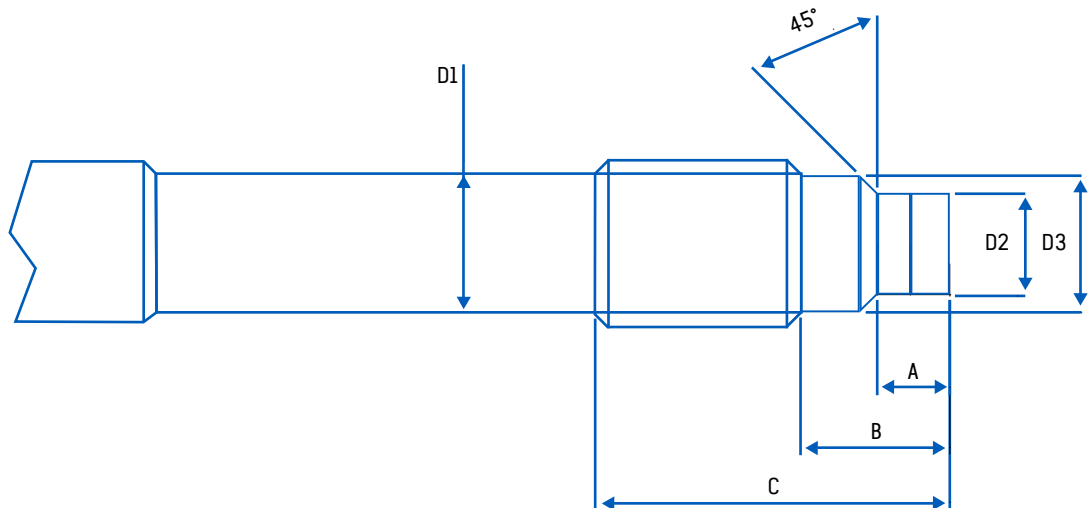


HOW TO AVOID IT?

The housing must be worked with appropriate mechanical equipment in order to comply with the axis of the holes and tapping. Complete mechanical details of the most common types of process connections can be found on page 4 of this document.

SENSOR TIP SIZE

D1	1/2-20UNF	M10X1.0	M14X1.5	M18X1.5
D2	.307/.305" [7.80/7.75mm]	.236/.234" [5.99/5.94mm]	.307/.305" [7.80/7.75mm]	.394/.392" [10.01/9.96mm]
D3	.414/.412" [10.52/10.46mm]	.336/.334" [8.53/8.48mm]	.475/.470" [12.07/11.94mm]	.630/.627" [16.00/15.92mm]
A	.219/.209 " [5.56/5.31mm]	.256/.246 " [6.50/6.25mm]	.236/.226 " [5.99/5.74mm]	.236/.226 " [5.99/5.74mm]
B	.450" [11.43mm]	.430" [10.92mm]	.480" [12.19mm]	.590" [14.98mm]
C	1.07" [27.2mm]	1.06" [26.9mm]	1.28" [32.5mm]	1.34" [34.0mm]



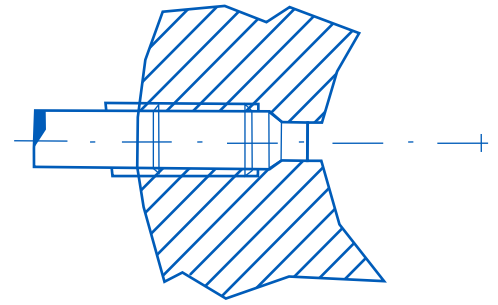
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CREATING A SHALLOW HOUSING

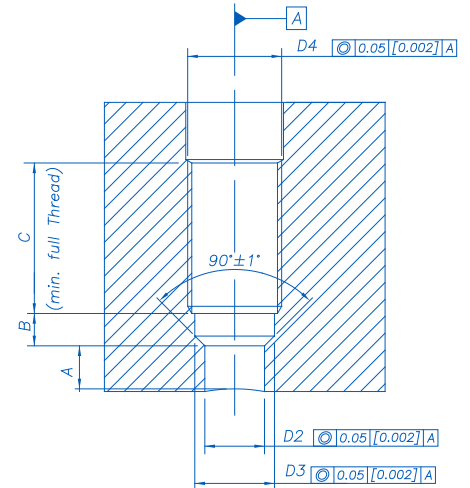
The housing must be designed in such a way as to ensure that there are no chambers or cavities in which extruded material could accumulate.

HOW TO AVOID IT?

In this case too, it is essential to ensure that the housing is machined using the appropriate mechanical equipment in order to comply with the drilling and tapping depths.



D1	1/2-20UNF	M10x1.0	M14x1.5	M18x1.5
D2	.313 ±0.001" [7.95 ±0.02mm]	.241 ±0.001" [6.12 ±0.02mm]	.319 ±0.001" [8.10 ±0.02mm]	.398 ±0.001" [10.10 ±0.02mm]
D3	.454 ±0.004" [11.53 ±0.1mm]	.344 ±0.004" [8.74 ±0.1mm]	.478 ±0.004" [12.14 ±0.1mm]	.634 ±0.004" [16.10 ±0.1mm]
D4	.515" [13mm] min.	.515" [13mm] min.	.630" [16mm] min.	.790" [20mm] min.
A	.225" [5.72mm] min.	.263" [6.68mm] min.	.240" [6.10mm] min.	.240" [6.10mm] min.
B	.17" [4.3mm] max.	.11" [2.8mm] max.	.16" [4.0mm] max.	.16" [4.0mm] max.
C	.75" [19mm]	.75" [19mm]	.75" [19mm]	.99" [25mm]



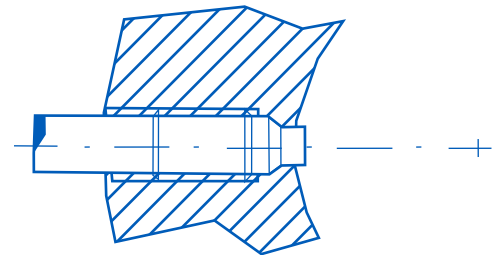
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CREATING A HOUSING THAT IS TOO DEEP

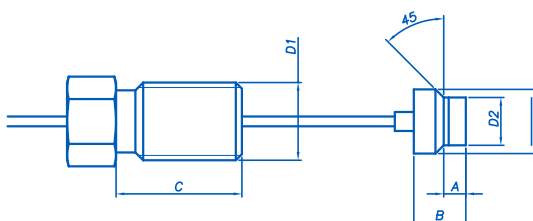
If the housing is machined too deep, the front membrane may protrude from the inside wall of the extruder and come into contact with the extrusion screw or the extrusion chamber cleaning TOOLS.

HOW TO AVOID IT?

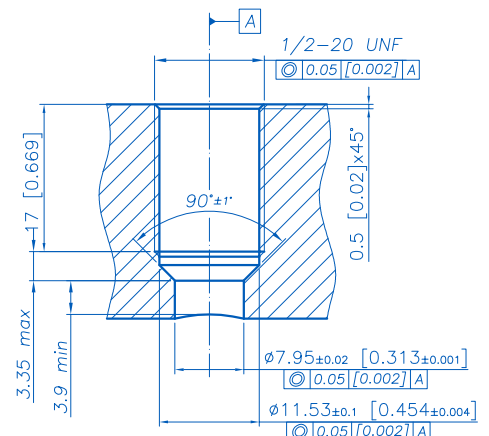
In this case too, it is essential to ensure that the housing is machined using the appropriate mechanical equipment in order to comply with the drilling and tapping depths.



SENSOR TIP SIZE



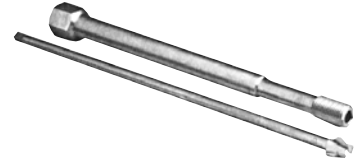
D1	1/2-20UNF
D2	.307/.305" [7.80/7.75mm]
D3	.414/.412" [10.52/10.46mm]
A	.125/.120" [3.18/3.05mm]
B	.318/.312" [8.08/7.92mm]
C	.81" [20.6mm]



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INSERTING THE SENSOR INTO A “DIRTY” HOUSING

If the sensor is mounted on machines that have already been used, residues of material from previous operations may be present in the housing, which may cause incorrect positioning of the sensor.



HOW TO AVOID IT?



It is sufficient to clean the housing before mounting the transducer, using a special carbide cutting edge cleaning tool that is usually supplied as an accessory by leading manufacturers of sensors of this type.

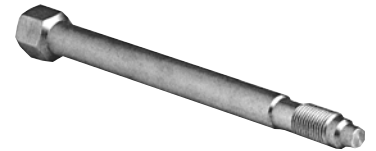
CORRECT HOUSING CLEANING PROCEDURE









- 1) This operation must be carried out with the material in a fluid state.
- 2) Insert the tool into the housing and screw in the cutter shaft normally with 1/4 turn steps.
- 3) Turn the pilot cutter clockwise until there is no resistance to cutting.
- 4) Repeat the operation described until it is perfectly clean.
- 5) For construction reasons, the maximum torque applicable to the pilot milling machine is 15 Nm (1.5 Kgm). If the occlusion of the hole cannot be removed without a higher torque, a drilling kit must be used, following the recommended procedure. The cleaning tool is available in versions: CT12 for 1/2-20UNF housing - CT18 for M18x1.5 housing.

DUMMY PLUG

To allow you to remove the transducer from its housing and continue working, locking rods with the same mechanical dimensions as the sensor are available. These DUMMY PLUGS are differentiated according to the type of thread: **SC12 for 1/2-20UNF housing - SC18 for M18x1 housing.**



DRILLING TOOLS KIT

	VERSION CODE	KF12	KF18
	THREADING TYPE	1/2-20UNF-2B	M18X1.5
1		Ø 7.6	Ø 9.75
2		Ø 7.95	Ø 10.1
3		Ø 13	Ø 20
4		Ø 11.5 WITH PILOT GUIDE	Ø 16 WITH PILOT GUIDE
5		1/2-20UNF-2B ROUGHING	M18X1.5 ROUGHING
6		1/2-20UNF-2B FINISHING	M18X1.5 FINISHING

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