



Verticale gating

The hot-runner nozzles for the **vertical gating** were developed to give you the optimum scope in designing your hot-runner systems.

The **26ZET single nozzle** with up to 4 tips allows high quantities of cavities while avoiding complex control engineering. The individual nozzle tips cannot be influenced directly.

New Accordingly the **SMHT/DMHT** nozzle series is perfect for the multi-tip gating of small parts and that with close cavity spacing. However high the requirements are in terms of gate position, tear-off quality and shot weight, the SMHT/DMHT nozzle line proves to be flexible and extremely adaptable to complex demands.

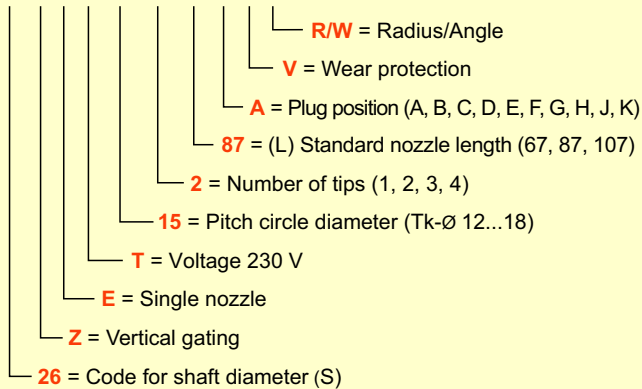
Another advantage for your applications: the temperature of each tip on the SMHT/DMHT nozzles can be regulated separately. The injection is direct and is also suitable for the internal injection of moulded parts. The nozzles allow a gentle flow of melt and permit the use of compact multi-cavity moulds with close cavity spacing.

An **extended nozzle tip** is recommended for injection onto products with different levels of height and for sprue-free injection in confined spaces.

Multi-tip nozzle type ZET

Example:

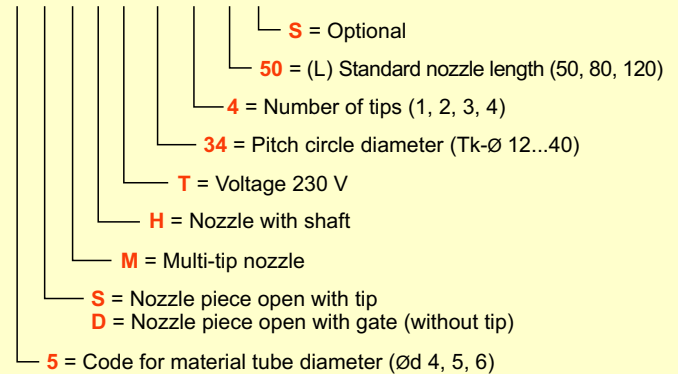
26 Z E T 15/ 2/ 87 A V R



Multi-tip nozzle type SMHT/DMHT

Example:

5 S M H T 34/ 4/ 50 S



S = Optional

H = Hard metal



① Power and thermo connection may be bent only **once** in this area. Minimum bend radius R8.

② **Nozzle piece design / gate design
open nozzle with tip / gate design**

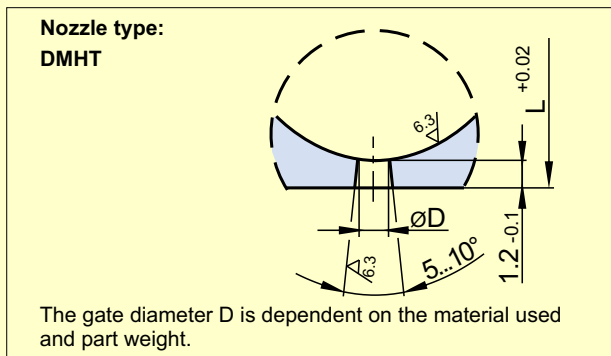
1. Measurement L ^{+0,02} refers to the gate diameter.

**2. Nozzle piece design A
for open nozzle with gate without tip:**

The die gap \varnothing is dependent on the gate diameter (D)
Nozzle size 4-6 = die gap of 1.5 mm

Gate design C for open nozzles can be recommended for the following applications:

- Intermediate gating
- Direct gating of large surface ABS parts >100 g
- Used for shear sensitive materials
- Gate vestige of 1-2 mm has to be expected



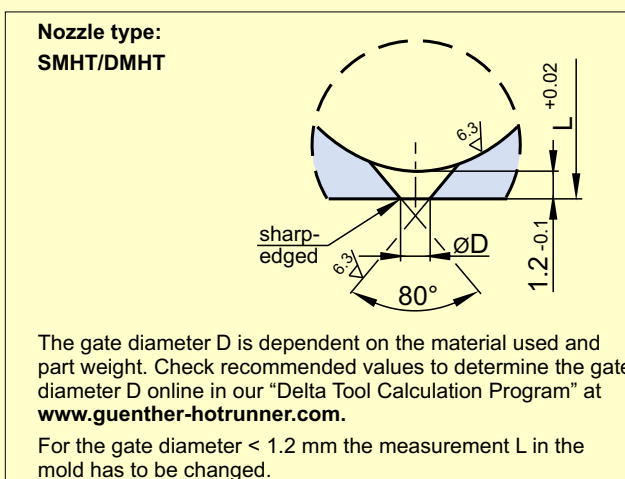
3. **Nozzle piece design C for open nozzle with gate without tip:**
The die gap is dependent on the gate diameter (D).

3.1 Open nozzle with tip

The tip protrudes ΔT 250°C (325°F) 0.5 mm into the gate diameter.

Gate design A for open nozzle with tip and open nozzle with gate without tip can be recommended for the following applications:

- Gating of small POM copolymer parts
- For applications without flow lines



Please note:

1. Positive seal
When the hot-runner system is cold, there is no positive seal between nozzles and manifold. It is necessary to reach operating temperature in order to seal the system.
2. Hot-runner nozzle
 - a. The hot-runner nozzles of the ZET/SMHT/DMHT type are not screwed to the manifold .
 - b. Hot-runner nozzle type SMHT/DMHT
Take care with the metal o-rings when assembling; they provide sealing when warm. The metal o-ring are to be fixed in position in the groove with some grease.
Metal o-ring are included in delivery.
Spare parts, chapter 7.
After every disassembly a new metal o-ring must be inserted when refitting the nozzle, chapter 7.
 - c. To dismount the nozzle out of the cavity plate please insert a nozzle extractor tool, chapter 7.
3. Pitch centers
The minimum pitch center depends of the pitch circle diameter on the nozzle type.
4. High temperature application
Please call our technical consulting if you have questions about high temperature applications **>320°C**.
5. Dimensions and tolerances
Dimensions and tolerances given refer to the mold.
6. Please see chapter 3 (yellow page) for the heat expansion gap dimension "K".
7. Maximum tightening torque

Threads	Property class	
	10.9	12.9
M4	3,8 Nm	4.6 Nm
M5	8 Nm	9.5 Nm
M6	13 Nm	16.0 Nm
M8	32 Nm	39.0 Nm
M10	64 Nm	77.0 Nm
M12	110 Nm	135.0 Nm

8. Technical information, chapter 1.4.

Important!

The nozzles type ZET must have an anti-twist protection!

Tolerance zone for the nozzle seat in the cavity plate:

Dimensions \varnothing H7	>10...18 =	+0.018 0
	>18...30 =	+0.021 0

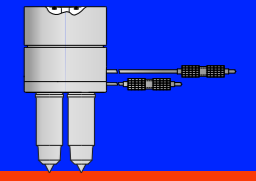
Order notes

Following parts must be ordered separately, chapter 6:

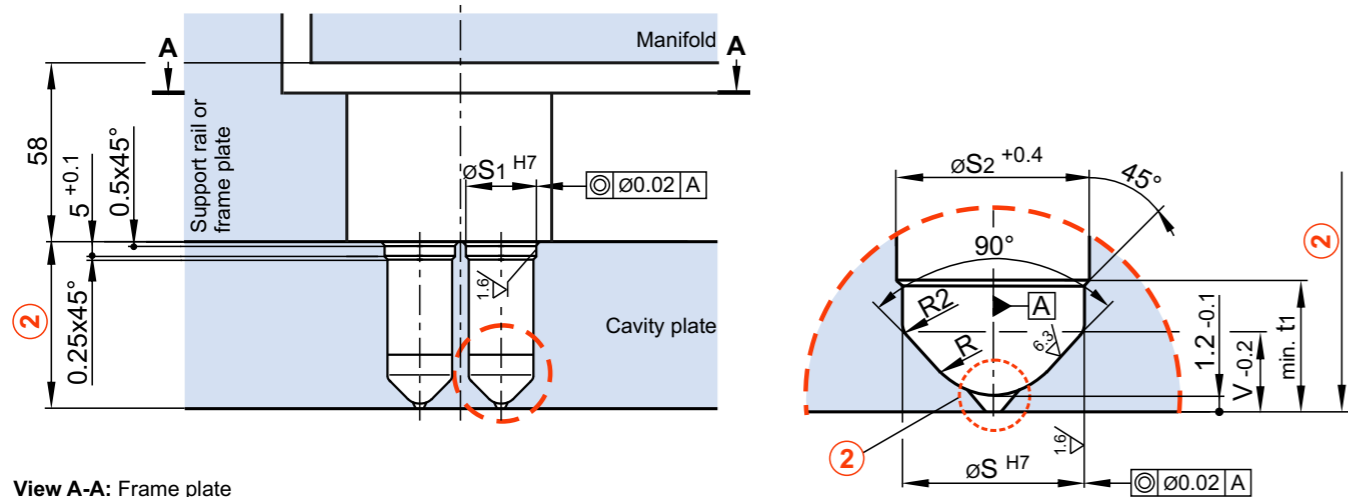
1. Thermoplug CMLK
for the nozzle SMHT/DMHT
2. Power receptacle CMT
for the nozzle SMHT/DMHT

If you have any questions please call our technical consulting at +49 (0) 6451 - 50 08-0.

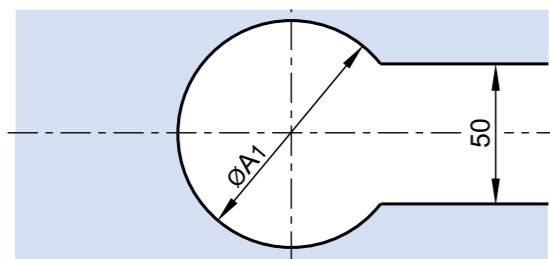
Multi-tip nozzle type SMHT/DMHT



Assembly



View A-A: Frame plate



Dimensions

Nozzle type SMHT/DMHT	Nozzle (mm)			2 tips		3 tips		4 tips		Assembly (mm)					
	øA	ød	ød1	Tk-ø	ød1	Tk-ø	ød1	Tk-ø	øA1	R	øS	øS1	øS2	t1	V
4	60.0	3.8	5.0	16.0*... 22.0	6.0	18.5*... 28.0	7.5	23.0*... 32.0	80	5	15	16	15.5	29	6.7
5	65.0	4.8	6.0	20.0*... 24.0	8.0	22.0*... 30.0	9.5	27.0*... 34.0	85	5	18	19	18.5	28	8.2
6	75.0	6.0	8.0	23.0*... 28.0	10.0	27.0*... 35.0	12.0	33.0*... 40.0	95	8	22	23	22.5	32	8.9

* Tk-ø < Standard-ø by min. Tk-ø upon request.

Order code

Example: Multi-tip nozzle **4SMHT32/4/50**

- 4 = Material tube-ø d 3.8 mm
- SMHT = Open multi-tip nozzle with tip, with shaft
- 32 = Pitch circle-ø 32 mm
- 4 = Number of tips
- 50 = Nozzle length 50 mm

Please indicate the gate diameter, material, part weight, pitch circle-ø, number of tips and the part in your order.

Notes

All nozzles can be optionally fitted with a tip and/or with a straight-through passage.

Multi-tip nozzles allow the realisation of compact, multi-cavity moulds with close cavity spacing. A part from the multi-tip nozzles that have been highlighted, other efficient solutions are also possible for your requirements. We recommend that you consult our application technology department.

Single nozzle

The SMHT/DMHT nozzle type is usable as a single nozzle with a heated AHM adapter. See chapter 5 for the installation situation and description.

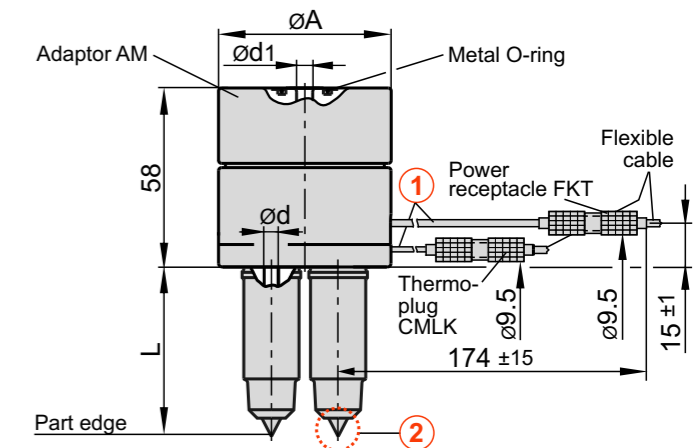
Plug-in power and thermocouple connections (1 power and control circuit for each tip)

The temperature in the tip area can be regulated separately.

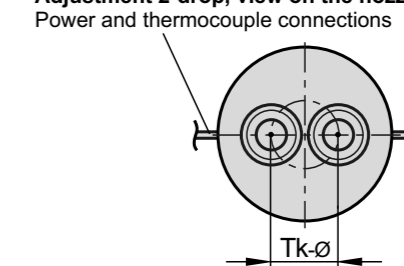
① ... as well as further technical notes on the "yellow page".

Multi-tip nozzle

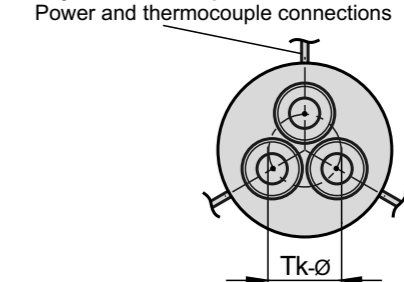
for vertical gating, in connection with the manifold



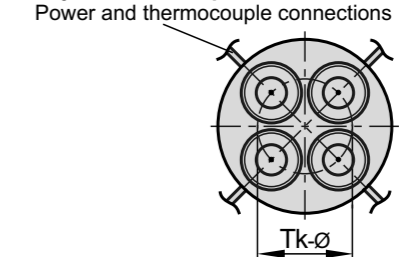
Adjustment 2-drop, view on the nozzle tip



Adjustment 3-drop, view on the nozzle tip



Adjustment 4-drop, view on the nozzle tip



Delivery time

Nozzle type	Nozzle length L (mm)			
SMHT/DMHT	50	80	120	
4	•	•	○	
5	•	•	○	
6	•	•	○	

• = short delivery time, ○ = upon request