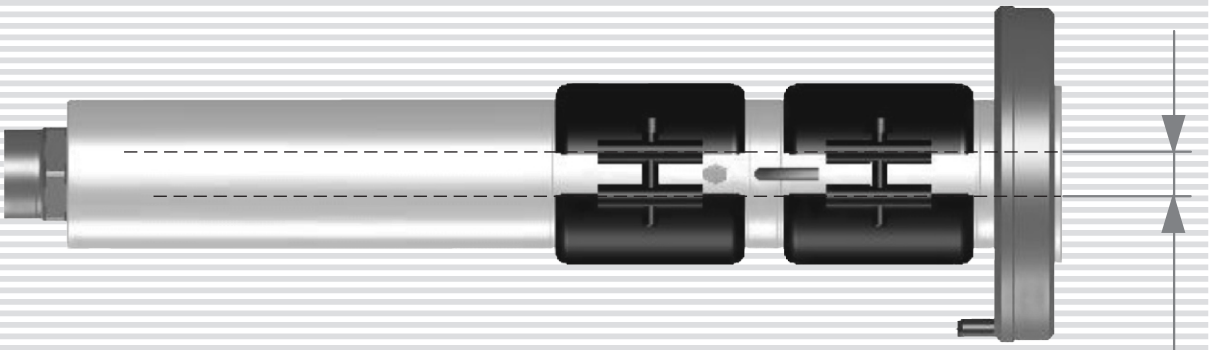
SR20 Hot Runner Nozzle

Manifold Nozzles, Sliding Fit



Ø8-20

C Company
P Products
T Technology
A Application

Synventive
molding solutions

Synventive molding solutions

Series SR20
Manifold nozzles, sliding fit, open / closed / valve gate

C P T A

Product type

Hot runner nozzle, SR (support ring)
➔Manifold nozzle sliding fit
➔Utilizes heat pipe technology to ensure uniform temperature
➔Patented seal technology
➔Replaceable threaded tips

Available with ten Controlled Vestige (CV) tip options including valve gates for zero vestige applications. See table at right.

Available gating types
➔Full flow
➔Cone point:
CV11CM & CV21CM developed for PA and PBT
➔Valve gate:
VG12 & VG23 tapered gate
VG12S & VG23S Straight gate

Major Dimensions (mm)

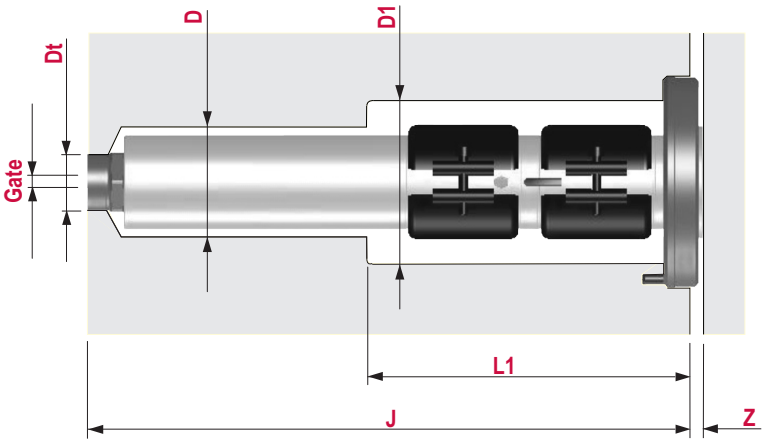
J Nozzle length	106-500
Nozzle flow bore	8-20Ø
D band/helical	Ø50/65Ø
D1 band/helical	Ø82/70Ø
Dt	Ø26
Z	6
L1	80 (single heater) 145 (installed spare)

Application

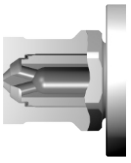
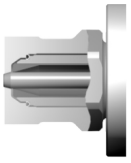
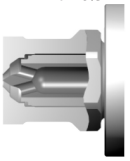
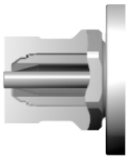
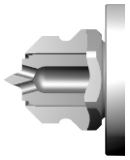
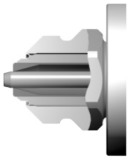
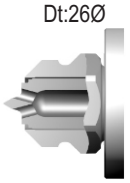
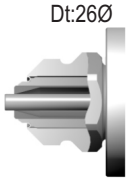
➔Suitable for all filled and unfilled materials

8 page no. of related data sheets

Illustrations simplified, schematically drawn and not to scale.



Available tip styles for SR20 Nozzles
Gating of nozzle tip

	Full flow thermal gate	Cone point thermal gate	Valve Gate
Witness Mark	CV-10 Gate:2.0-7.0Ø Dt:26Ø  5	CV-11 Gate:2.0-4.0Ø Dt:26Ø  7	VG-12 Gate:3.9Ø Dt:26Ø  17
		VG-11CM Gate:3.0-4.0Ø Dt:26Ø  9	VG-12S Gate:5.0Ø Dt:26Ø  18
No Witness Mark	CV-20 Gate:2.0-7.0Ø Dt:26Ø  11	CV-21 Gate:2.0-4.0Ø Dt:26Ø  13	VG-23 Gate:3.9Ø Dt:26Ø  19
		VG-21CM Gate:3.0-4.0Ø Dt:26Ø  15	VG-23S Gate:5.0Ø Dt:26Ø  20

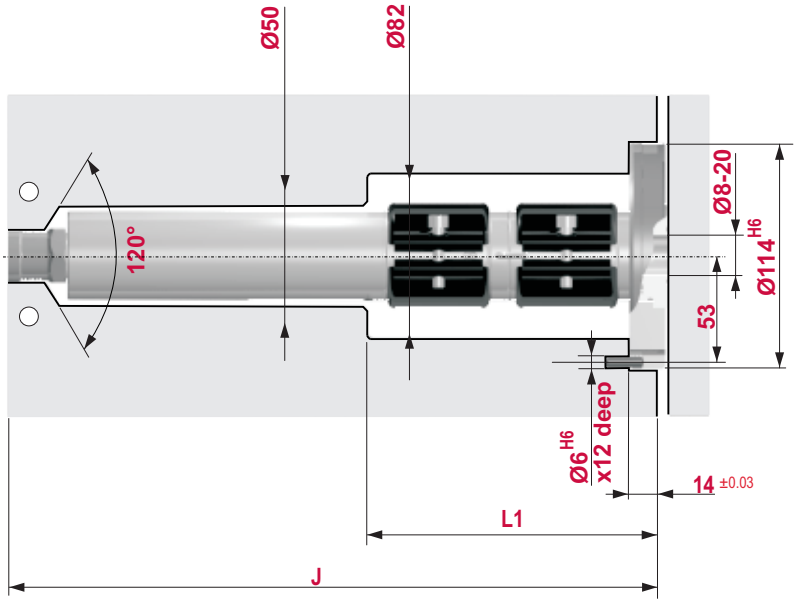
For design and application information, see the Synventive Hot Runner Guide.

S

Band Heater

- ➔Externally heated, 240V/500W and 600W
- ➔With the exception of the CM style tips one heater is required for operation. When using the CM style tips the Ø82 heater clearance hole depth increases, eliminating the Ø50 clearance hole
- ➔J minimum = 106
- ➔J maximum = 380
- ➔Installed spare heater and TC when space permits (J 150-380)
- ➔L1 = 80 for single heater
  145 for installed spare heater

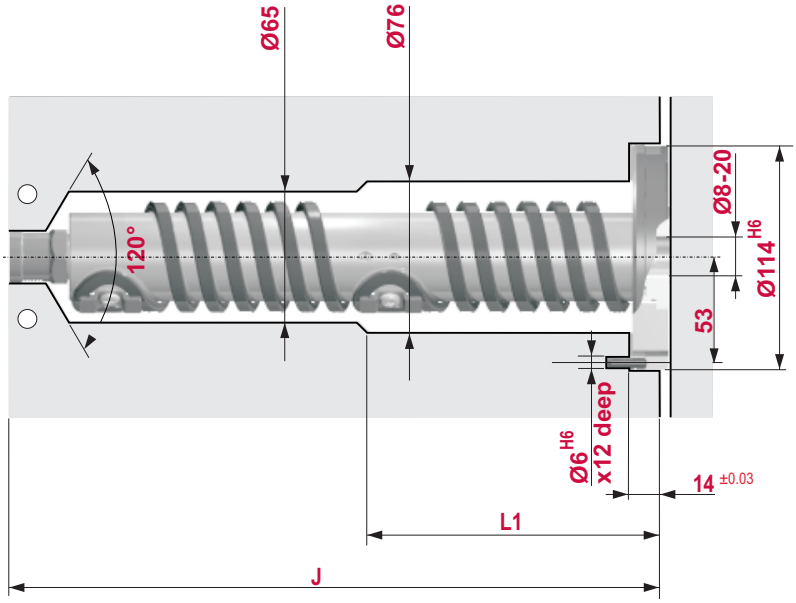
Illustrations simplified, schematically drawn and not to scale.



C

Helical Heater

- ➔Externally heated, 240V/750W, one or two heaters
- ➔When J is greater than 380 two heaters are required for operation
- ➔J minimum = 195
- ➔J Maximum = 500
- ➔For J 195-380, L1=0
  J 380-500, L1=J/2



E

For design and application information, see the Synventive Hot Runner Guide.

1. Cut out for the nozzle

J Length from back of cavity plate to Gate location

General tolerances: DIN ISO 2768-mK

Surfaces: 3.2 (1.6 0.8)

Values of the dimension J can be found in the data sheet for the selected nozzle type.

2. Cut out for connections

→electrical power
→thermocouple

3. Alignment pin

The alignment pin prevents the nozzle from rotating.

4. Cut out for the nozzle tip

A) Through bore nozzle tip (CV10, CV11, CV11CM, VG12 and VG12S
b) Blind bore nozzle tip (CV20, CV21,CV21CM, VG23 & VG23S)

Dt Tip Ø
H Hot runner gate Ø

Depending on the selected nozzle type, different cut outs are required for the nozzle tip.

The dimensions of the cut out for the nozzle tip used can be found in the nozzle data sheet.

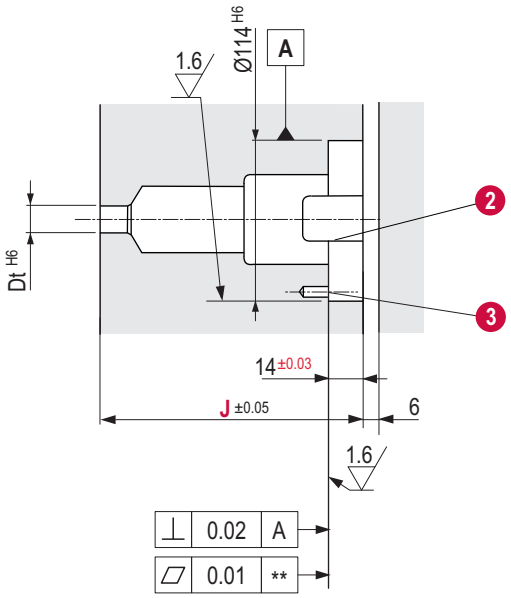
1) Applies to valve gate nozzles.

Illustrations simplified, schematically drawn and not to scale.

1

* drawn offset

** to all other pocket surfaces



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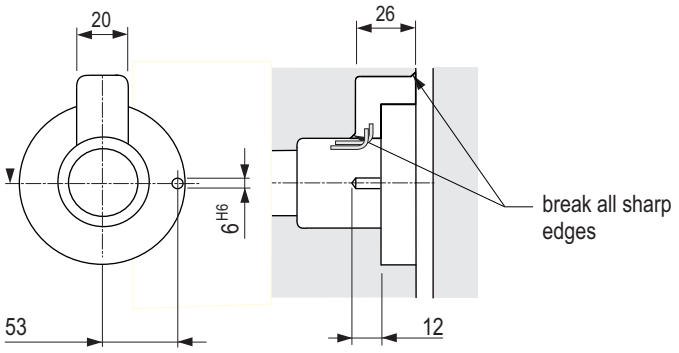
3



C

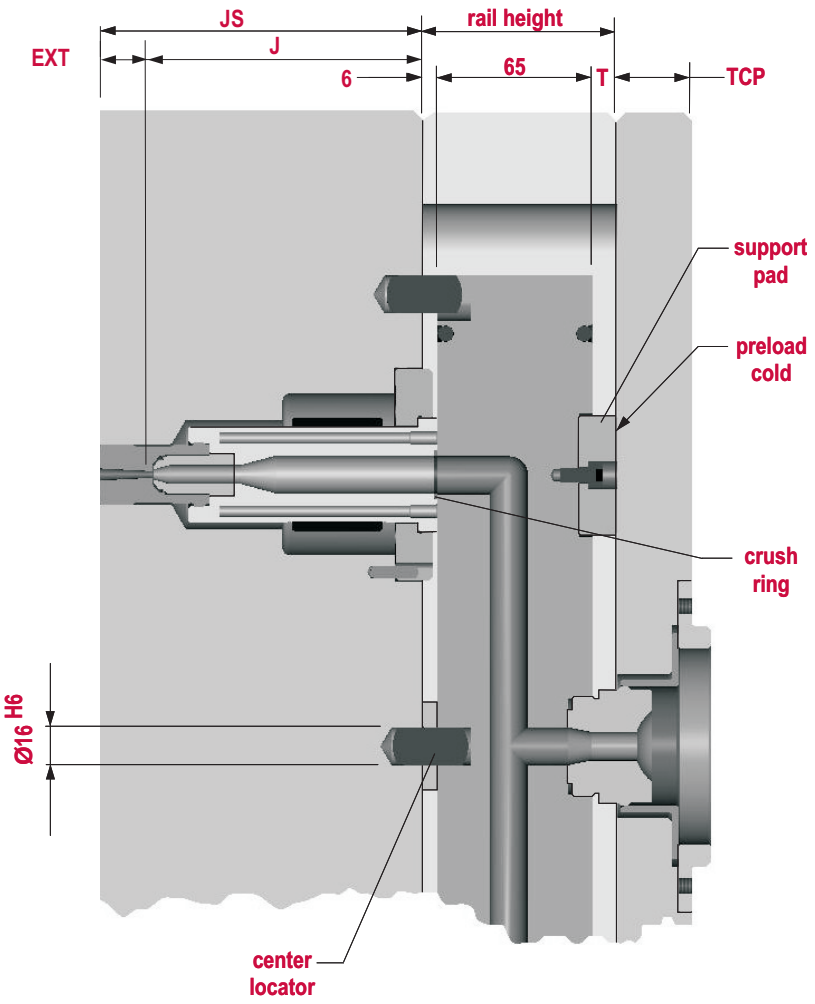
E

SR20 Series

SR20 manifold criteria:

- ➔SR20 hot runner systems are designed with preload between the thrust pads and the mold plates in the cold condition. As the manifold heats an additional sealing force is created
- ➔Thrust pads are made of a low conductivity material and should only be replaced with an equivalent Synventive part
- ➔Excessive contact with the mold will cause heat sinks and affect system performance. Contact with the mold must be limited to specified areas.
- ➔Support ring nozzles do not line up with sub-runners in the manifold in the cold condition. As the manifold heats up the manifold sub-runner locations expand to the correct location.
- ➔Minimum rail height:
  - 81 (thermal gates)
  - 93 (valve gates)
- ➔T :
  = Rail height - 6 - 65 (thermal Gate)
  = 22 (Valve Gate)
- ➔Minimum T (thermal gates) = 10

Illustrations simplified, schematically drawn and not to scale.



Variable	Description
T	Top Air Gap
J	Depth to Zero Extension
TCP	Top Clamp Plate
JS	Depth to Parting Line
EXT	Extension

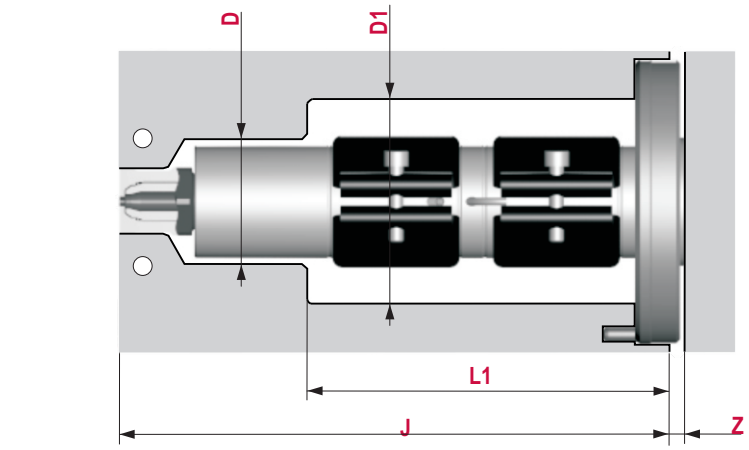
For design and application information, see the Synventive Hot Runner Guide.

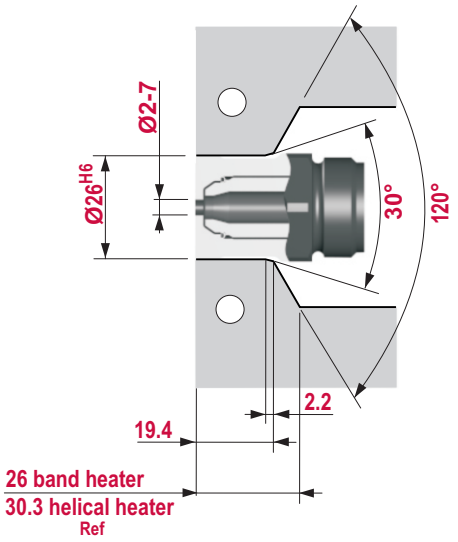
Illustrations simplified, schematically drawn and not to scale.

SR20 CV10

General:
➔Filled and unfilled materials
➔Easy orifice changes by straight reaming
➔Heat pipes for isothermal operation

Nozzle Criteria:
➔Orifice Ø2.0-7.0
➔J length 106-500
➔Open flow bore
➔Patented seal





➔ Information regarding

➔tolerances and surfaces
➔shape and position tolerances
➔cut out for connections
➔groove/bore for locking pin

please see page 3

"Cut out in mould plate for nozzle and connections"

➔ Cooling required
➔around the nozzle tip
➔opposite to the nozzle tip

➔ The front of the nozzle tip must always be against plastic.

➔ General tolerances according to DIN ISO 2768-mK

Heater Style	J Min	J Max	Heater Qty	Watts/Volts
Band	106	149.9	1	750W/240V
Band	150	380	2 (one spare)	750W/240 (each)
Helical	195	379.9	1	750W/240V
Helical	380	500	2	750W/240V (each)

For design and application information, see the Synventive Hot Runner Guide.

Illustrations simplified, schematically drawn and not to scale.

SR20 CV10

SR20 contour criteria:

➔When gating on an angled mold contour the vestige height may be increased depending on the angle

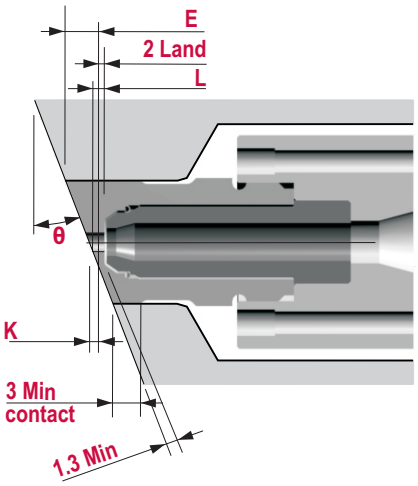
➔K is the increase in land required to maintain a 1.3 minimum wall thickness

θ ⩽ 8°;

K=0
E=13TANθ
L=2-(Ø Orifice/2)*TANθ

θ >8°;

K=4.75TANθ+1.3/COSθ-2
E=K+13TANθ
L=2+K-(Ø Orifice/2)*TANθ



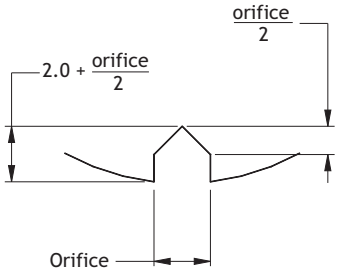
Angled Mold Contour

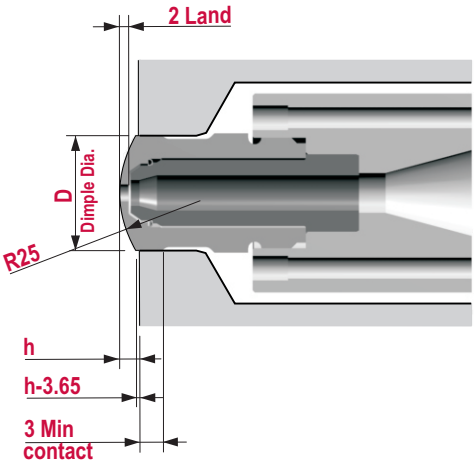
SR20 recess criteria:

➔Values in tables are for materials not having glass fibers. Consult Synventive for vestige height when using glass fillers

➔Recessed gates are used to reduce vestige height above the part surface or keep the vestige below the part surface

➔For most materials CV10 vestige height is equal to 2 + (orifice Ø /2). If the vestige height, relative to the possible gate recess depth (h), is too great, use of a CV11 tip is recommended





Spherical Recess

H (recess depth)	2.0	2.5	3.0	3.5	4.0
D	19.6	21.8	23.7	25.5	26.0

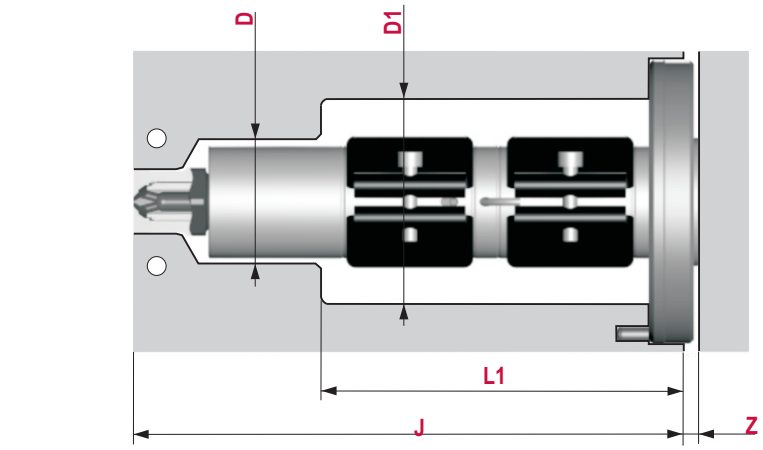
For design and application information, see the Synventive Hot Runner Guide.

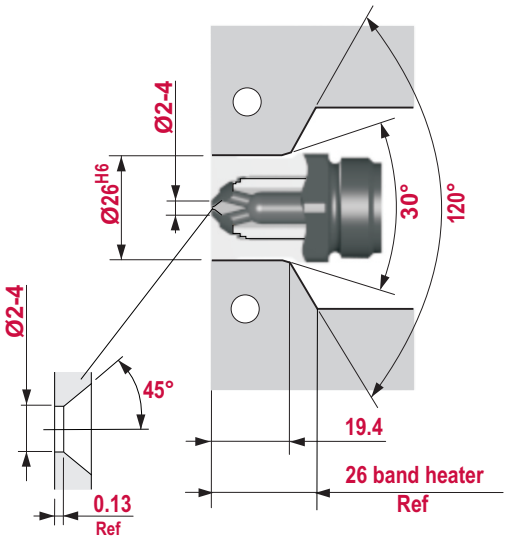
Illustrations simplified, schematically drawn and not to scale.

SR20 CV11

General:
- ➔Filled and unfilled materials
- ➔More heat in gate area for semi-crystalline materials
- ➔Heat pipes for isothermal operation

Nozzle Criteria:
- ➔Orifice Ø2.0-4.0
- ➔J length 106-500
- ➔Patented seal





➔ Information regarding

➔tolerances and surfaces
➔shape and position tolerances
➔cut out for connections
➔groove/bore for locking pin

please see page 3

"Cut out in mould plate for nozzle and connections"

➔ Cooling required
➔around the nozzle tip
➔opposite to the nozzle tip

➔ The front of the nozzle tip must always be against plastic.

➔ General tolerances according to DIN ISO 2768-mK

Heater Style	J Min	J Max	Heater Qty	Watts/Volts
Band	106	149.9	1	750W/240V
Band	150	380	2 (one spare)	750W/240 (each)
Helical	195	379.9	1	750W/240V
Helical	380	500	2	750W/240V (each)

For design and application information, see the Synventive Hot Runner Guide.

Illustrations simplified, schematically drawn and not to scale.

SR20 CV11

SR20 contour criteria:

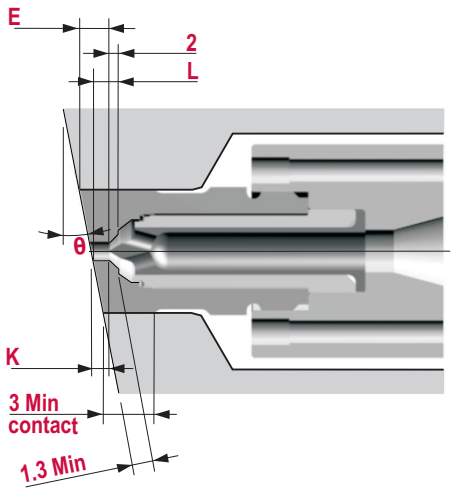
➔When gating on an angled mold contour the vestige height may be increased depending on the angle

➔K is the increase in land required to maintain a 0.13 land and/or 1.3 minimum wall thickness

θ ≤ 9°;
K=(Ø Orifice/2)*TANθ
E=(26+Ø Orifice/2)*TANθ
L=0.13

9°<θ ≤ 13°;
K=4.75TANθ+1.3/COSθ+
(Ø Orifice-2)/2*TANθ-2
E=K+13TANθ
L=0.13+K-(Ø Orifice/2)*TANθ

θ>13°;
K=K=4.75TANθ+1.3/COSθ-2
E=K+13TANθ
L=0.13+K-(Ø Orifice/2)TANθ

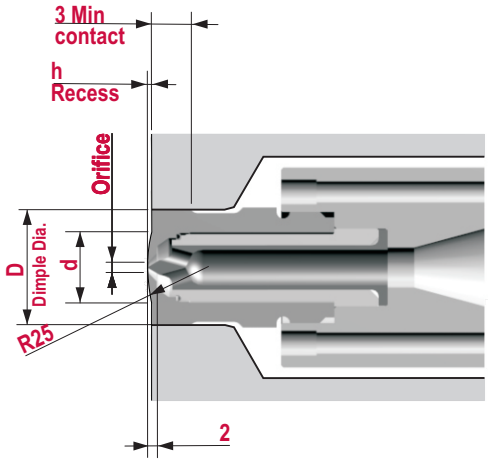


Angled Mold Contour

SR20 recess criteria:

➔Values in tables are for materials not having glass fibers. Consult Synventive for vestige height when using glass fillers

➔Recessed gates are used to reduce vestige height above the part surface or keep the vestige below the part surface



Spherical Recess

Orifice	2.0-2.2	2.2-2.4	2.4-2.6	2.6-2.8	2.8-3.0	3.0-3.2
H	1.00	1.06	1.12	1.18	1.26	1.32
d	2.45	2.65	2.85	3.05	3.25	3.45
D	14.20	14.64	15.06	15.47	15.99	16.38
Orifice	3.2-3.4	3.4-3.6	3.6-3.8	3.8-4.0		
H	1.40	1.46	1.52	1.60		
d	3.65	3.85	4.05	4.25		
D	16.87	17.25	17.61	18.07		

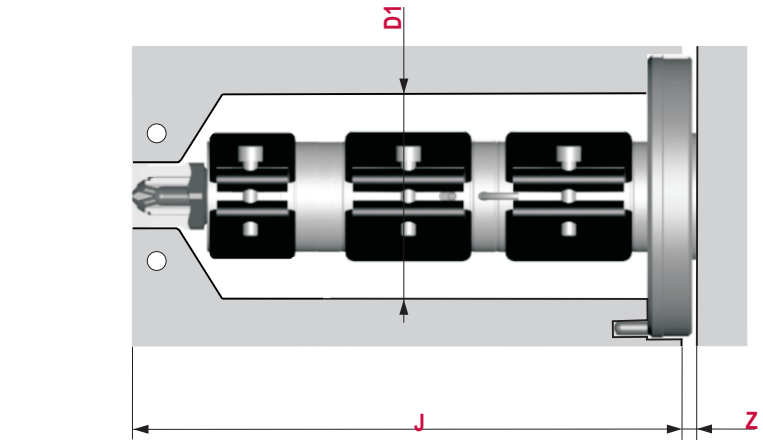
For design and application information, see the Synventive Hot Runner Guide.

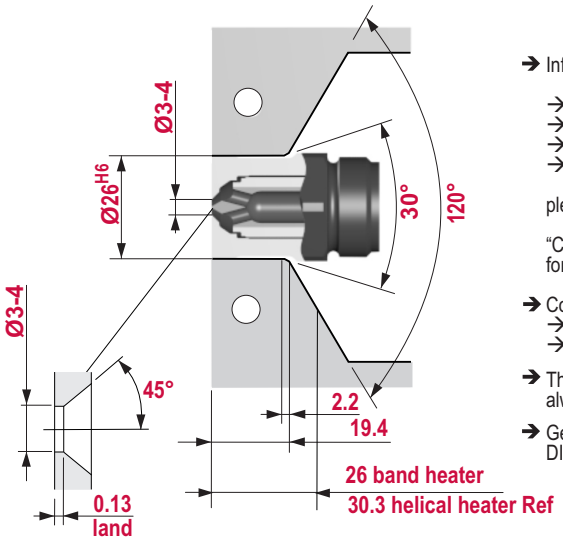
Illustrations simplified, schematically drawn and not to scale.

SR20 CV11CM

General:
➔Filled and unfilled materials
➔Developed for PA and PBT
➔Heat pipes for isothermal operation

Nozzle Criteria:
➔Orifice Ø3.0-4.0
➔J length 106-500
➔Patented seal





➔ Information regarding

➔tolerances and surfaces
➔shape and position tolerances
➔cut out for connections
➔groove/bore for locking pin

please see page 3

"Cut out in mould plate for nozzle and connections"

➔ Cooling required
➔around the nozzle tip
➔opposite to the nozzle tip

➔ The front of the nozzle tip must always be against plastic.

➔ General tolerances according to DIN ISO 2768-mK

Heater Style	J Min	J Max	Heater Qty	Watts/Volts
Band	106	149.9	1	750W/240V
Band	150	380	2 (one spare)	750W/240 (each)
Helical	195	379.9	1	750W/240V
Helical	380	500	2	750W/240V (each)

For design and application information, see the Synventive Hot Runner Guide.

Illustrations simplified, schematically drawn and not to scale.

SR20 CV11CM

SR20 contour criteria:

➔When gating on an angled mold contour the vestige height may be increased depending on the angle

➔K is the increase in land required to maintain a 0.13 land and/or 1.3 minimum wall thickness

θ ≤ 9°;
K=(Ø Orifice/2)*TANθ
E=(26+Ø Orifice/2)*TANθ
L=0.13

9°<θ ≤ 13°;
K=4.75TANθ+1.3/COSθ+
(Ø Orifice-2)/2*TANθ-2
E=K+13TANθ
L=0.13+K-(Ø Orifice/2)*TANθ

θ>13°;
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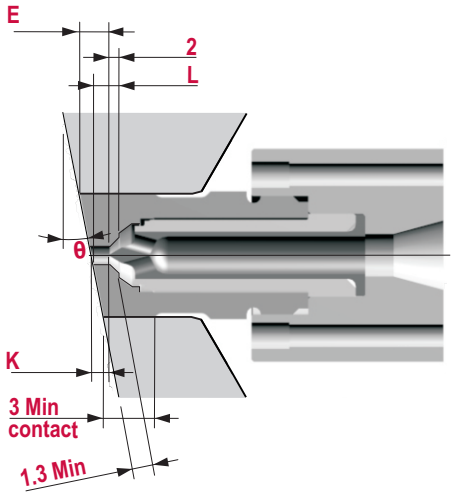
L=0.13+K-(Ø Orifice/2)TANθ

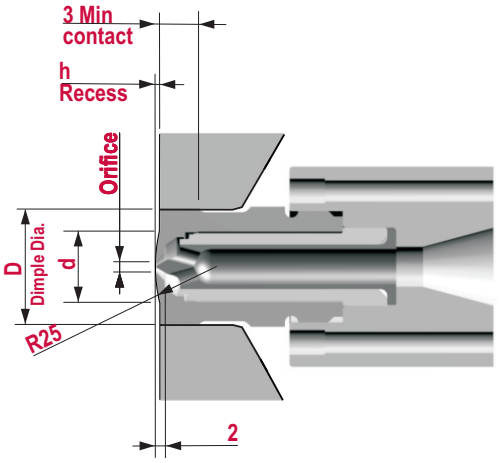


Angled Mold Contour

SR20 recess criteria:

➔Values in tables are for materials not having glass fibers. Consult Synventive for vestige height when using glass fillers

➔Recessed gates are used to reduce vestige height above the part surface or keep the vestige below the part surface



Spherical Recess

Orifice	3.0-3.2	3.2-3.4	3.4-3.6	3.6-3.8	3.8-4.0	
H	1.00	1.06	1.12	1.18	1.26	
d	2.45	2.65	2.85	3.05	3.25	
D	14.00	14.41	14.80	15.18	15.67	

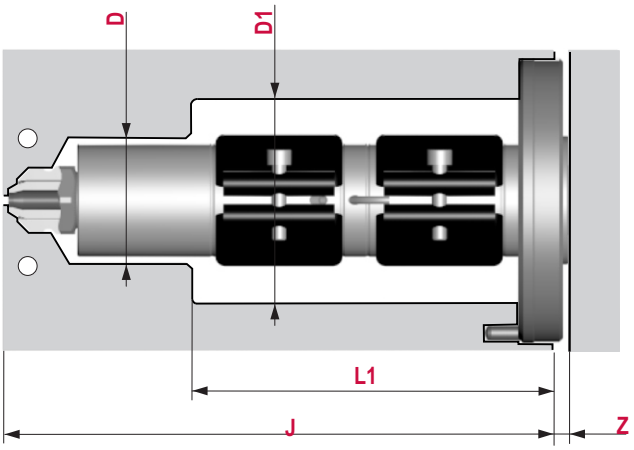
For design and application information, see the Synventive Hot Runner Guide.

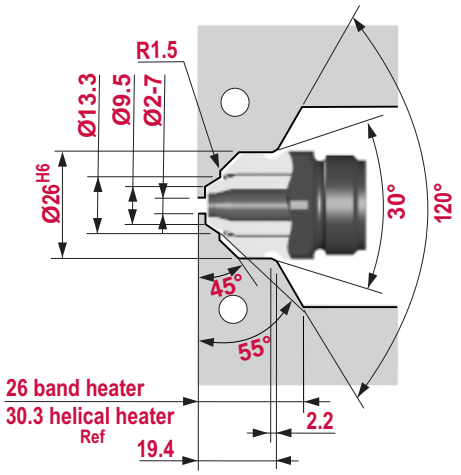
Illustrations simplified, schematically drawn and not to scale.

SR20 CV20

General:
- ➔Filled and unfilled materials
- ➔Easy orifice changes by straight reaming
- ➔Heat pipes for isothermal operation
- ➔No witness mark on part
- ➔Easier removal of frozen material around tip for color change

Nozzle Criteria:
- ➔Orifice Ø2.0-7.0
- ➔J length 106-500
- ➔Open flow bore
- ➔Patented seal





➔ Information regarding

➔tolerances and surfaces
➔shape and position tolerances
➔cut out for connections
➔groove/bore for locking pin

please see page 3

"Cut out in mould plate for nozzle and connections"

➔ Cooling required
➔around the nozzle tip
➔opposite to the nozzle tip

➔ The front of the nozzle tip must always be against plastic.

➔ General tolerances according to DIN ISO 2768-mK

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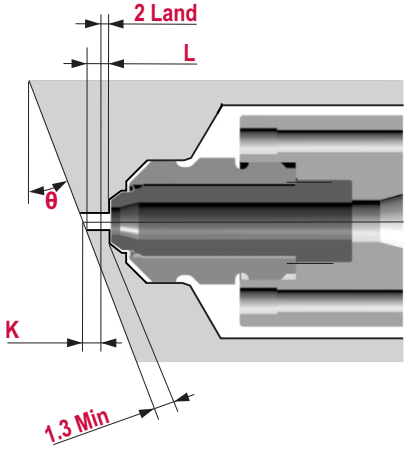
Helical	380	500	2	750W/240V (each)

SR20 contour criteria:
- ➔When gating on an angled mold contour the vestige height may be increased depending on the angle
- ➔K is the increase in land required to maintain 1.3 minimum wall thickness

θ≤8°;
K=0
L=2-(Ø Orifice-2)*TANθ
θ>18°;
K=4.75TANθ+1.3/COSθ-2
L=2+K-(Ø Orifice/2)*TANθ



Angled Mold Contour

For design and application information, see the Synventive Hot Runner Guide.

Illustrations simplified, schematically drawn and not to scale.

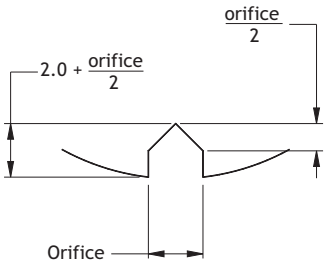
SR20 CV20

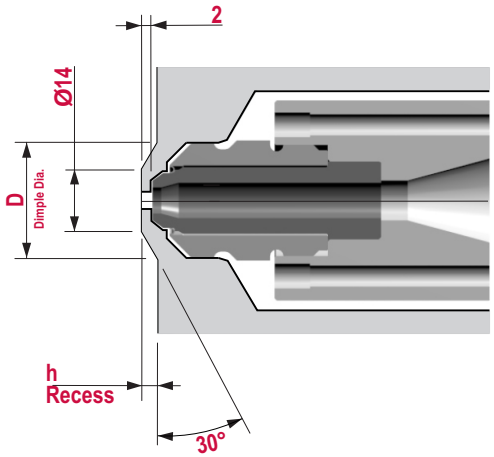
SR20 recess criteria:

➔Values in tables are for materials not having glass fibers. Consult Synventive for vestige height when using glass fillers

➔Recessed gates are used to reduce vestige height above the part surface or keep the vestige below the part surface

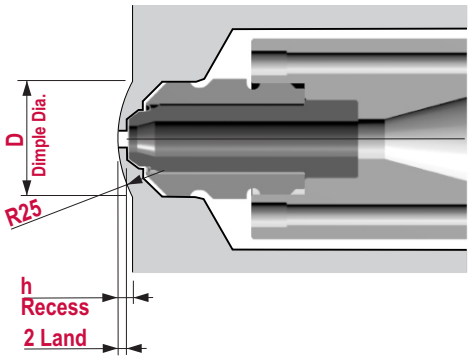
➔For most materials CV20 vestige height is equal to 2 + (orifice Ø /2). If the vestige height, relative to the possible gate recess depth (h), is too great, use of a CV21 tip is recommended





Conical Recess

h (recess depth)	2.0	2.5	3.0	3.5	4.0
D	21.0	22.7	24.4	26.1	27.9



Spherical Recess

h (recess depth)	2.0	2.5	3.0	3.5	4.0
D	19.6	21.8	23.7	25.5	27.1

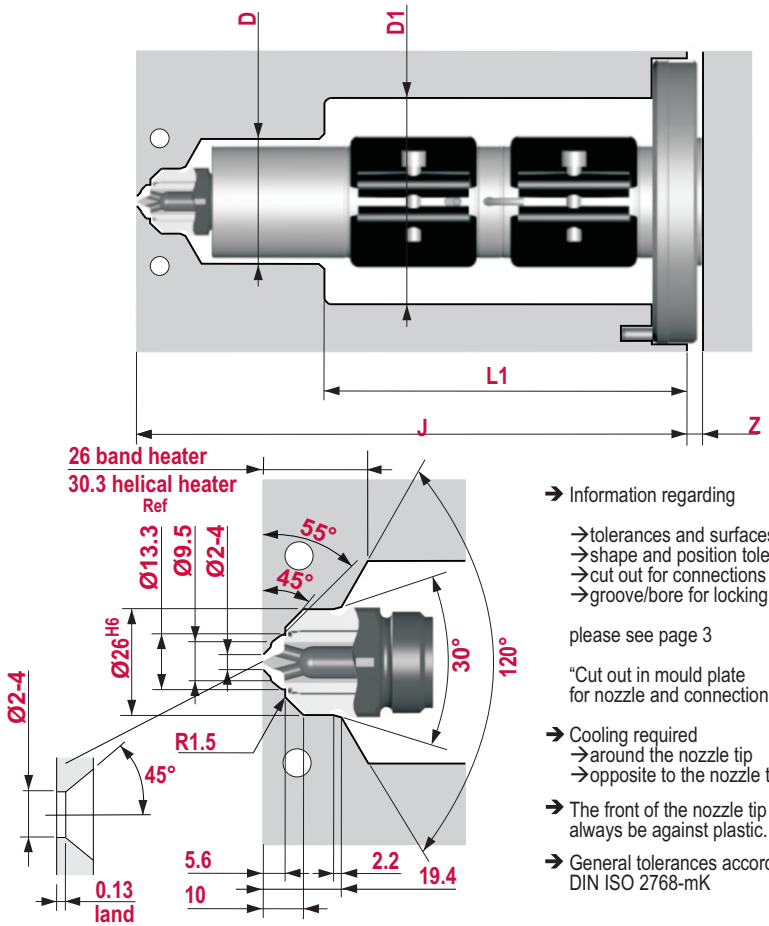
For design and application information, see the Synventive Hot Runner Guide.

Illustrations simplified, schematically drawn and not to scale.

SR20 CV21

General:
- ➔Filled and unfilled materials
- ➔More heat in gate area for semi-crystaline materials
- ➔Heat pipes for isothermal operation
- ➔No witness mark on part
- ➔Easier removal of frozen material around tip for color change

Nozzle Criteria:
- ➔Orifice Ø2.0-4.0
- ➔J length 106-500
- ➔Patented seal



- ➔ Information regarding
  - ➔tolerances and surfaces
  - ➔shape and position tolerances
  - ➔cut out for connections
  - ➔groove/bore for locking pin

  please see page 3

  "Cut out in mould plate for nozzle and connections"
- ➔ Cooling required
  - ➔around the nozzle tip
  - ➔opposite to the nozzle tip
- ➔ The front of the nozzle tip must always be against plastic.
- ➔ General tolerances according to DIN ISO 2768-mK

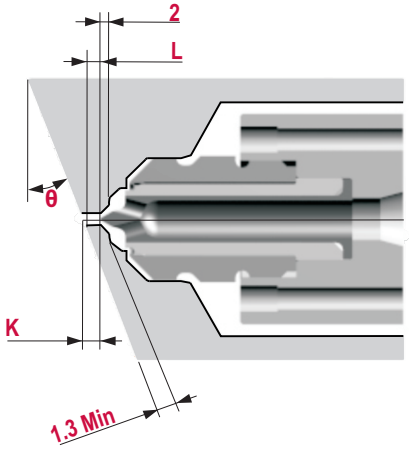
Heater Style	J Min	J Max	Heater Qty	Watts/Volts
Band	106	149.9	1	750W/240V
Band	150	380	2 (one spare)	750W/240 (each)
Helical	195	379.9	1	750W/240V
Helical	380	500	2	750W/240V (each)

SR20 contour criteria:
- ➔When gating on an angled mold contour the vestige height may be increased depending on the angle
- ➔K is the increase in land required to maintain 1.3 minimum wall thickness

θ ⩽ 9°;
K=(Ø Orifice/2)*TANθ
L=0.13

9°<θ ⩽ 13°;
K=4.75TANθ+1.3/COSθ+
(Ø Orifice-2)/2*TANθ-2
L=0.13+K-(Ø Orifice/2)*TANθ

θ>13°;
K=K=4.75TANθ+1.3/COSθ-2
L=0.13+K-(Ø Orifice/2)TANθ



Angled Mold Contour

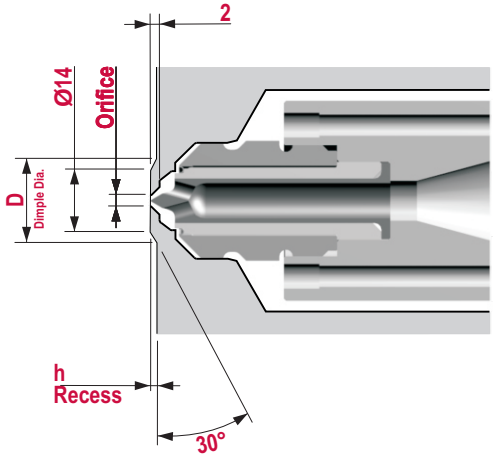
For design and application information, see the Synventive Hot Runner Guide.

Illustrations simplified, schematically drawn and not to scale.

SR20 CV21

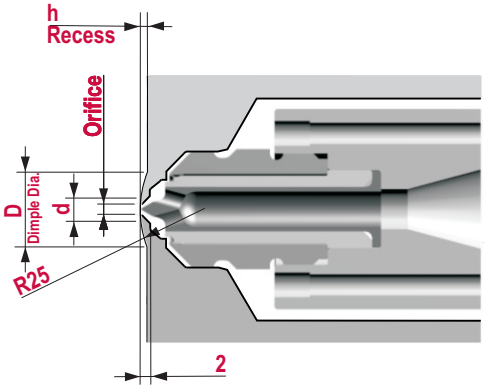
SR20 recess criteria:

- ➔Values in tables are for materials not having glass fibers. Consult Synventive for vestige height when using glass fillers
- ➔Recessed gates are used to reduce vestige height above the part surface or keep the vestige below the part surface
- ➔Maintain 0.13 land when machining gate orifice



Conical Recess

Orifice	2.0	2.5	3.0	3.5	4.0	
h	0.93	1.09	1.26	1.43	1.59	
D	17.22	17.78	18.36	18.95	19.51	



Spherical Recess

Orifice	2.0-2.2	2.2-2.4	2.4-2.6	2.6-2.8	2.8-3.0	3.0-3.2
h	1.00	1.06	1.12	1.18	1.26	1.32
d	2.45	2.65	2.85	3.05	3.25	3.45
D	14.20	14.64	15.06	15.47	15.99	16.38
Orifice	3.2-3.4	3.4-3.6	3.6-3.8	3.8-4.0		
h	1.40	1.46	1.52	1.60		
d	3.65	3.85	4.05	4.25		
D	16.87	17.25	17.61	18.07		

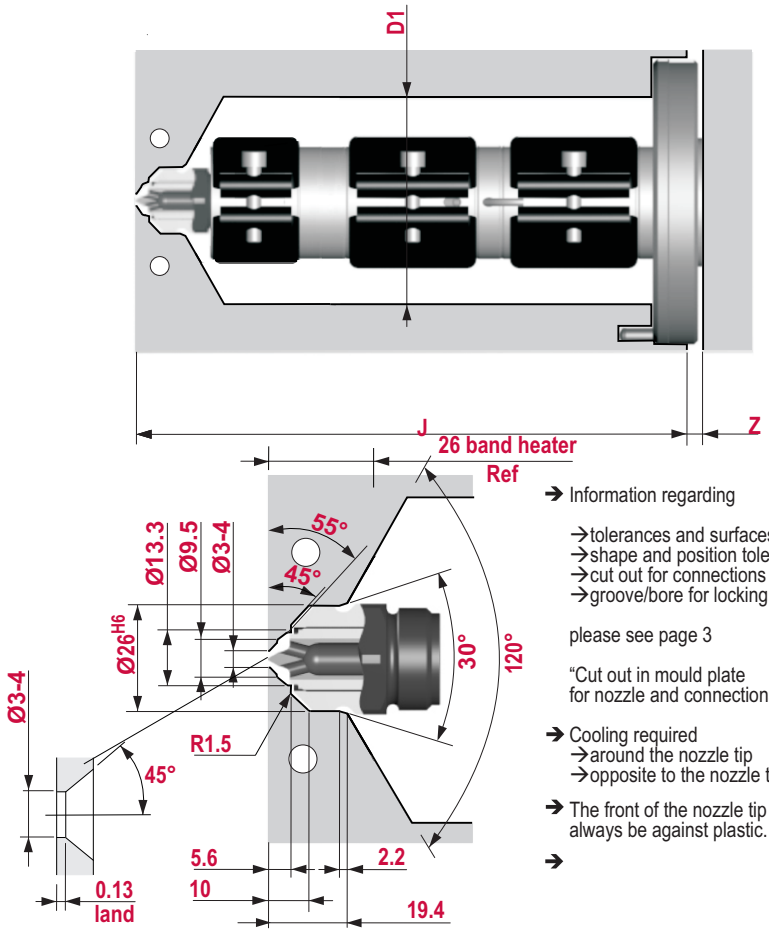
For design and application information, see the Synventive Hot Runner Guide.

Illustrations simplified, schematically drawn and not to scale.

SR20 CV21CM

General:
- ➔Filled and unfilled materials
- ➔Developed for PA and PBT
- ➔Heat pipes for isothermal operation
- ➔No witness mark on part
- ➔Easier removal of frozen material around tip for color change

Nozzle Criteria:
- ➔Orifice Ø3.0-4.0
- ➔J length 75-375
- ➔Patented seal



- ➔ Information regarding
  - ➔tolerances and surfaces
  - ➔shape and position tolerances
  - ➔cut out for connections
  - ➔groove/bore for locking pin

  please see page 3

  "Cut out in mould plate for nozzle and connections"
- ➔ Cooling required
  - ➔around the nozzle tip
  - ➔opposite to the nozzle tip
- ➔ The front of the nozzle tip must always be against plastic.
- ➔

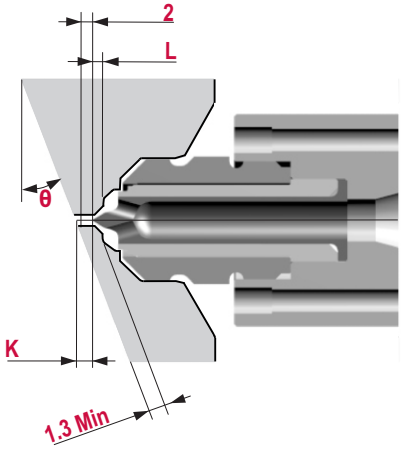
Heater Style	J Min	J Max	Heater Qty	Watts/Volts
Band	106	149.9	1	750W/240V
Band	150	380	2 (one spare)	750W/240 (each)
Helical	195	379.9	1	750W/240V
Helical	380	500	2	750W/240V (each)

SR20 contour criteria:
- ➔When gating on an angled mold contour the vestige height may be increased depending on the angle
- ➔K is the increase in land required to maintain 1.3 minimum wall thickness

θ≤9°;
K=(Ø Orifice/2)*TANθ
L=0.13

9°<θ≤13°;
K=4.75TANθ+1.3/COSθ+
(Ø Orifice-2)/2*TANθ-2
L=0.13+K-(Ø Orifice/2)*TANθ

θ>13°;
K=K=4.75TANθ+1.3/COSθ-2
L=0.13+K-(Ø Orifice/2)TANθ



Angled Mold Contour

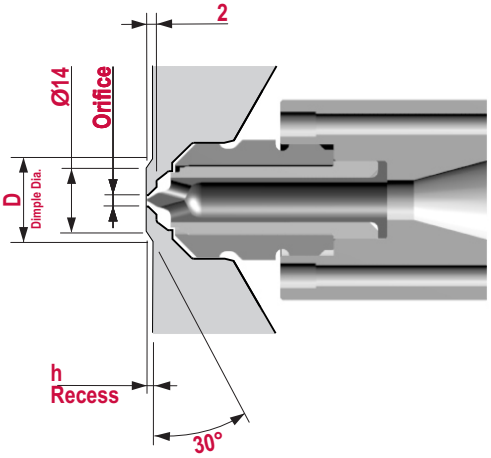
For design and application information, see the Synventive Hot Runner Guide.

Illustrations simplified, schematically drawn and not to scale.

SR20 CV21CM

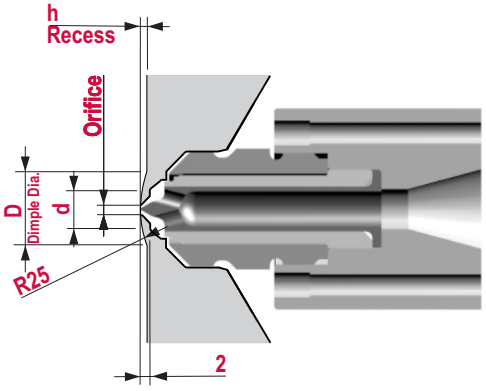
SR20 recess criteria:

- ➔Values in tables are for materials not having glass fibers. Consult Synventive for vestige height when using glass fillers
- ➔Recessed gates are used to reduce vestige height above the part surface or keep the vestige below the part surface
- ➔Maintain 0.13 land when machining gate recess or contour



Conical Recess

Orifice	3.0	3.5	4.0			
h (recess depth)	1.26	1.43	1.59			
D	18.4	19.0	19.5			



Spherical Recess

Orifice	3.0-3.2	3.2-3.4	3.4-3.6	3.6-3.8	3.8-4.0	
h	1.32	1.40	1.46	1.52	1.60	
d	3.45	3.65	3.85	4.05	4.25	
D	16.38	16.87	17.25	17.61	18.07	

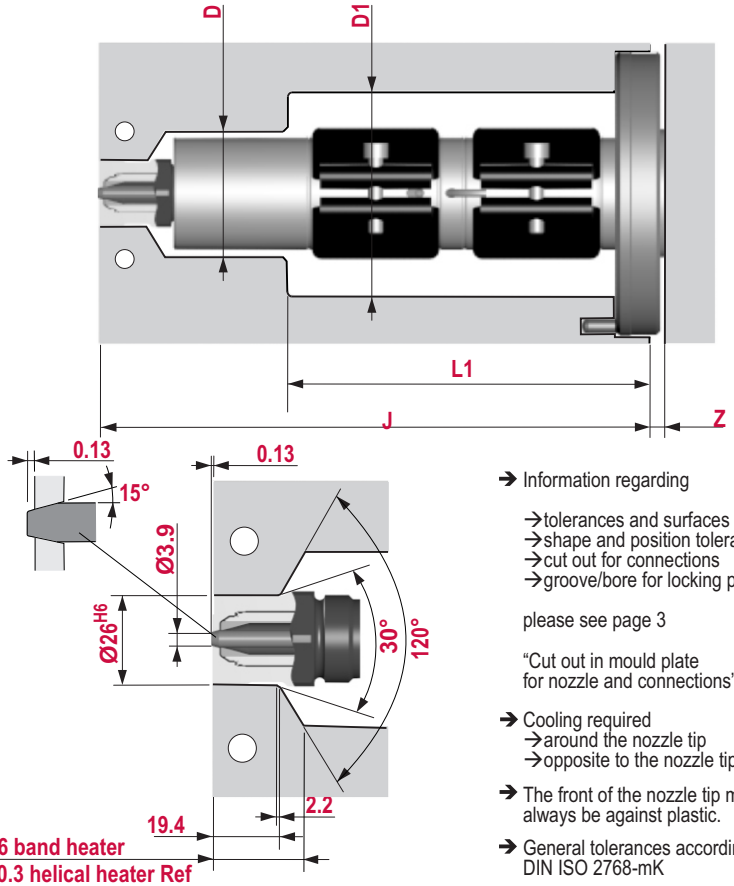
For design and application information, see the Synventive Hot Runner Guide.

Illustrations simplified, schematically drawn and not to scale.

SR20 VG12

General:
➔Filled and unfilled materials
➔Tapered valve pin to eliminate gate flash
➔Heat pipes for isothermal operation

Nozzle Criteria:
➔Orifice Ø3.9
➔J length 106-500
➔Patented seal



➔ Information regarding
→tolerances and surfaces
→shape and position tolerances
→cut out for connections
→groove/bore for locking pin

please see page 3

"Cut out in mould plate for nozzle and connections"

➔ Cooling required
→around the nozzle tip
→opposite to the nozzle tip

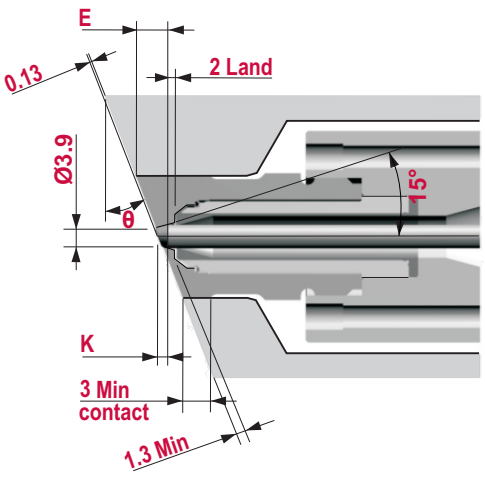
➔ The front of the nozzle tip must always be against plastic.

➔ General tolerances according to DIN ISO 2768-mK

SR20 recess criteria:
➔When gating on an angled mold contour the vestige height may be increased depending on the angle
➔K is the increase in land required to maintain a 1.3 minimum wall thickness

Heater Style			Heater Qty	Watts/Volts
Band	106	149.9	1	750W/240V
Band	150	380	2 (one spare)	750W/240 (each)
Helical	195	379.9	1	750W/240V
Helical	380	500	2	750W/240V (each)

θ⩽8°;
K=0
E=13TANθ
θ >8°;
K=4.75TANθ+1.3/COSθ-2
L=K+13TANθ



Angled Mold Contour

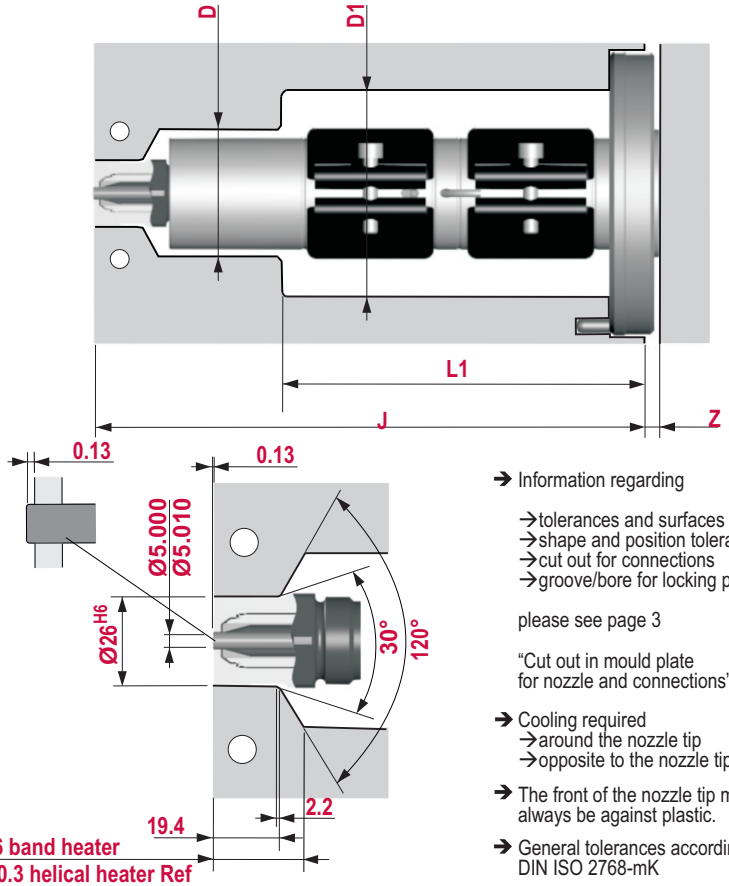
For design and application information, see the Synventive Hot Runner Guide.

Illustrations simplified, schematically drawn and not to scale.

SR20 VG12S

General:
- ➔Filled and unfilled materials
- ➔Straight valve pin for non-adjustable actuators and glass filled materials
- ➔Heat pipes for isothermal operation

Nozzle Criteria:
- ➔Orifice Ø5
- ➔J length 106-500
- ➔Patented seal



- ➔ Information regarding
  - ➔tolerances and surfaces
  - ➔shape and position tolerances
  - ➔cut out for connections
  - ➔groove/bore for locking pin

  please see page 3

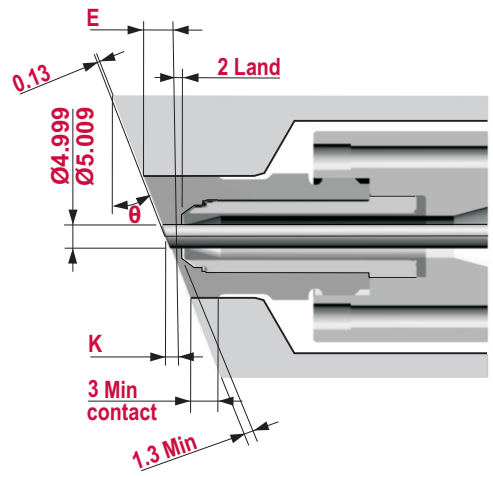
  "Cut out in mould plate for nozzle and connections"
- ➔ Cooling required
  - ➔around the nozzle tip
  - ➔opposite to the nozzle tip
- ➔ The front of the nozzle tip must always be against plastic.
- ➔ General tolerances according to DIN ISO 2768-mK

Heater Style			Heater Qty	Watts/Volts
Band	106	149.9	1	750W/240V
Band	150	380	2 (one spare)	750W/240 (each)
Helical	195	379.9	1	750W/240V
Helical	380	500	2	750W/240V (each)

SR20 recess criteria:
- ➔When gating on an angled mold contour the vestige height may be increased depending on the angle
- ➔K is the increase in land required to maintain a 1.3 minimum wall thickness

$\theta \leqslant 8°$;
K=0
E=13TANθ

$\theta > 8°$;
K=4.75TANθ+1.3/COSθ-2
L=K+13TANθ



Angled Mold Contour

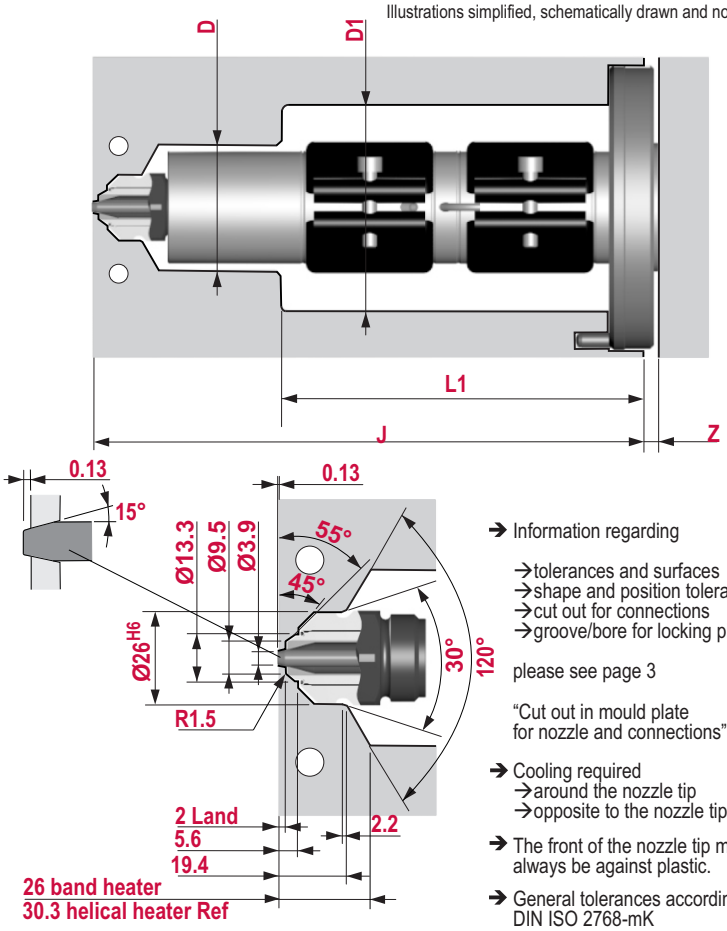
For design and application information, see the Synventive Hot Runner Guide.

Illustrations simplified, schematically drawn and not to scale.

SR20 VG23

General:
- ➔Filled and unfilled materials
- ➔Tapered valve pin to eliminate gate flash
- ➔Heat pipes for isothermal operation
- ➔No witness mark on part

Nozzle Criteria:
- ➔Orifice Ø3.9
- ➔J length 106-500
- ➔Patented seal



- ➔ Information regarding
  - →tolerances and surfaces
  - →shape and position tolerances
  - →cut out for connections
  - →groove/bore for locking pin

  please see page 3

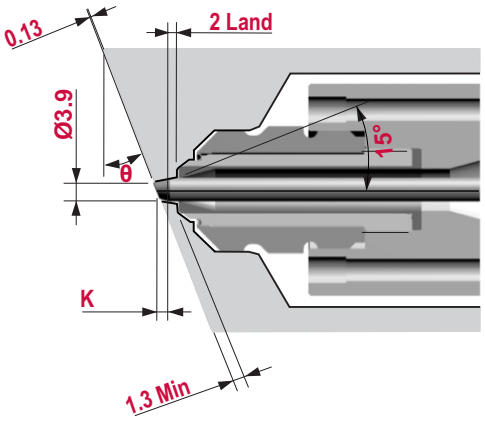
  "Cut out in mould plate for nozzle and connections"
- ➔ Cooling required
  - →around the nozzle tip
  - →opposite to the nozzle tip
- ➔ The front of the nozzle tip must always be against plastic.
- ➔ General tolerances according to DIN ISO 2768-mK

Heater Style	J Min	J Max	Heater Qty	Watts/Volts
Band	106	149.9	1	750W/240V
Band	150	380	2 (one spare)	750W/240 (each)
Helical	195	379.9	1	750W/240V
Helical	380	500	2	750W/240V (each)

SR20 recess criteria:
- ➔When gating on an angled mold contour the vestige height may be increased depending on the angle
- ➔K is the increase in land required to maintain a 1.3 minimum wall thickness

$\theta \leqslant 8°$;
K=0

$\theta > 8°$;
K=4.75TANθ+1.3/COSθ-2



Angled Mold Contour

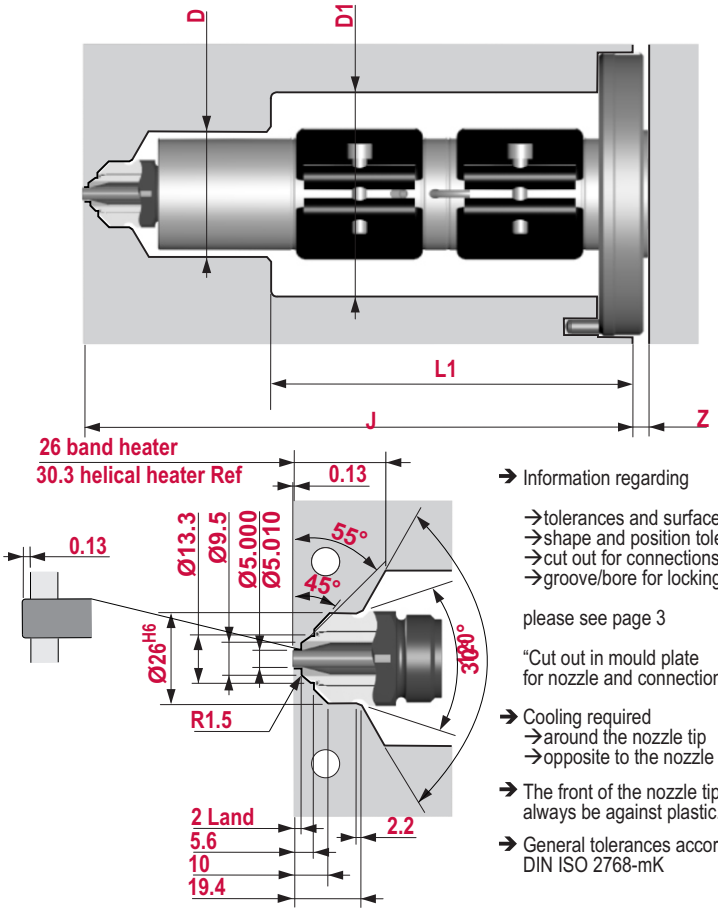
For design and application information, see the Synventive Hot Runner Guide.

Illustrations simplified, schematically drawn and not to scale.

SR20 VG23

General:
- ➔Filled and unfilled materials
- ➔Straight valve pin for non-adjustable actuators and glass filled materials
- ➔Heat pipes for isothermal operation
- ➔No witness mark on part

Nozzle Criteria:
- ➔Orifice Ø5.0
- ➔J length 106-500
- ➔Patented seal



- ➔ Information regarding
  - ➔tolerances and surfaces
  - ➔shape and position tolerances
  - ➔cut out for connections
  - ➔groove/bore for locking pin

  please see page 3

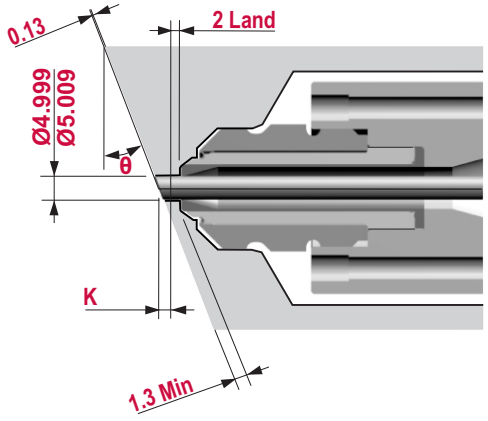
  "Cut out in mould plate for nozzle and connections"
- ➔ Cooling required
  - ➔around the nozzle tip
  - ➔opposite to the nozzle tip
- ➔ The front of the nozzle tip must always be against plastic.
- ➔ General tolerances according to DIN ISO 2768-mK

Heater Style	J Min	J Max	Heater Qty	Watts/Volts
Band	106	149.9	1	750W/240V
Band	150	380	2 (one spare)	750W/240 (each)
Helical	195	379.9	1	750W/240V
Helical	380	500	2	750W/240V (each)

SR20 recess criteria:
- ➔When gating on an angled mold contour the vestige height may be increased depending on the angle
- ➔K is the increase in land required to maintain a 1.3 minimum wall thickness

$\theta \leqslant 8°$;
K=0

$\theta > 8°$;
K=4.75TANθ+1.3/COSθ-2



Angled Mold Contour

For design and application information, see the Synventive Hot Runner Guide.

AU - Australia	+61 3 9886 3475	diepro@optusnet.com.au
BR - Brasil - Brazil	+55 (0)11 6191 3433	synventive@uol.com.br
CA - Canada	+1 514-421-8963 +1 604-943-7702	lutek@lutek.ca ahmed@dccnet.com
CN - People's Republic of China	+86 512 62838870 +86 755 82315175	infohrcn@synventive.com
CZ - Czech Rebpublic	+420 326 992 038	infohrcz@synventive.com
DE - Germany	+49 (0) 6251 9332-0	infohrde@synventive.com
DK - Denmark	+45 33931629	infohrsc@synventive.com
ES - Spain	+34 93 565 15 00	infohres@synventive.com
FI - Finland	+358(0)207 519 600	cle@clegroup.fi
FR - France	+33 (0) 474991600	infohrfr@synventive.com
GB - Great Britain	+44 (0) 1527577417	infohruk@synventive.com
IL - Israel	+972-3-7325446	adb2@barak.net.il
IN - India	+91 80 2558 0024	infohrin@synventive.com
IT - Italy	+39 0266505373	infohrit@synventive.com
JP - Japan	+ 81 45 472 1239	jminamizono@synventive.com
NL - The Netherlands	+31 (0) 786738282	infohrnl@synventive.com
PL - Poland	+48 (0) 52 323 12 00	infohrpl@synventive.com
PT - Portugal	+351 244829790	infohrp@synventive.com
SG - Singapore	+65 65368093	infohrsg@synventive.com
SK - Slovak Republic	+421 (0)2 63 82 92 48	infohrsk@synventive.com
US - United States of America	+1 800.367.5662 +1 248.457.0761	info@synventive.com

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