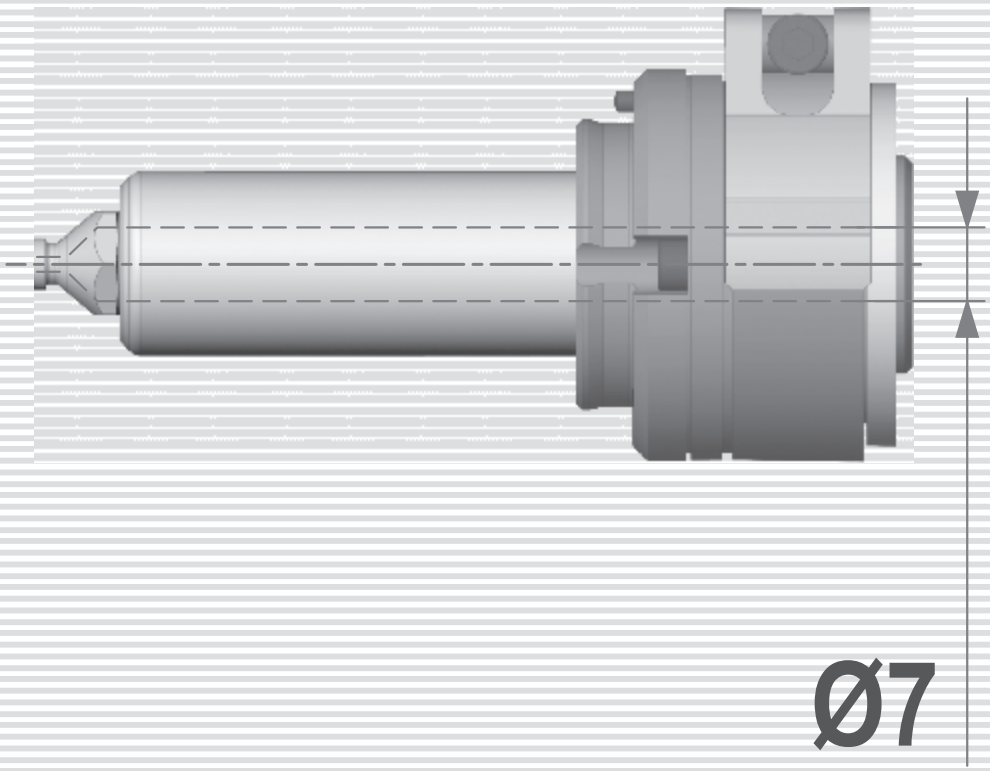
Series CB ... E

Single Nozzles, Open



C Company
P Products
T Technology
A Application

Synventive
molding solutions

Synventive molding solutions

Series CB ... E
Single nozzles, open

Product type

Hot runner nozzles in the **CB...E** range; this series belongs to nozzle class[1] **07 S**.
➔Nozzle size **07**: Flow bore-Ø 7 mm [2]
➔Nozzle style **S**: Single nozzle

With the nozzle tips in the form of screw-in parts, different nozzle types can be implemented (type = shape and gating of nozzle tip), see table at right.

Available gating types
➔open with torpedo (**T**)

Major dimensions (mm)

J	Flow bore Ø	Ø7 [2]
L	Nozzle length	36...246 [3)4)]
D	Ø of cut out, front	Ø27
Dt	Centring Ø tip	see right
H	Hot runner exit Ø	see right [3]
K	Head height	36
Dk	Head Ø	Ø53
Ls	Depth of head centring	9
Ds	Ø of head centring	Ø40
R	Nozzle contact radius	0...40

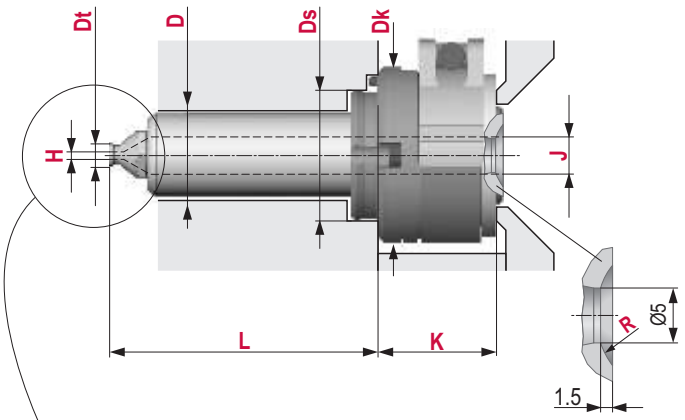
Heating

➔externally heated, 230 V AC
➔2...3 zones, 565...815 W
➔Fe/CuNi thermocouple, DIN 43710

Application

For all usual thermoplastics
Max. shot weight per nozzle (g)
➔150 (low viscosity)

Illustrations simplified, schematically drawn and not to scale.



Available nozzle types for this series

Shape of nozzle tip	N (open)	T (open with torpedo)	V (valve gate)
Y		 YT 3 H: 1.0...2.7 Dt: Ø 7	
U			
F		 FT 4 H: 1.0...2.7 Dt: Ø 7	
P			
K			
L		 LT 5 H: 1.0...2.7 Dt: Ø 7	
S			
V			
W		 WT 6... H: 0.6...2.7 Dt: Ø 14	
X			

8 page no. of related data sheets

1) Enhanced classification for improved ease of selection. Part of the nozzle type No. for later nozzle series.
2) Standard value resp. average diameter of nozzle range, can be different depending on nozzle series and application.
3) Raster dimensions. Intermediate values can be found from the prescribed dimensional raster.
4) Minimum and maximum value of nozzle length depend on the selected tip shape.
5) depending on nozzle length

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

Illustrations simplified, schematically drawn and not to scale.

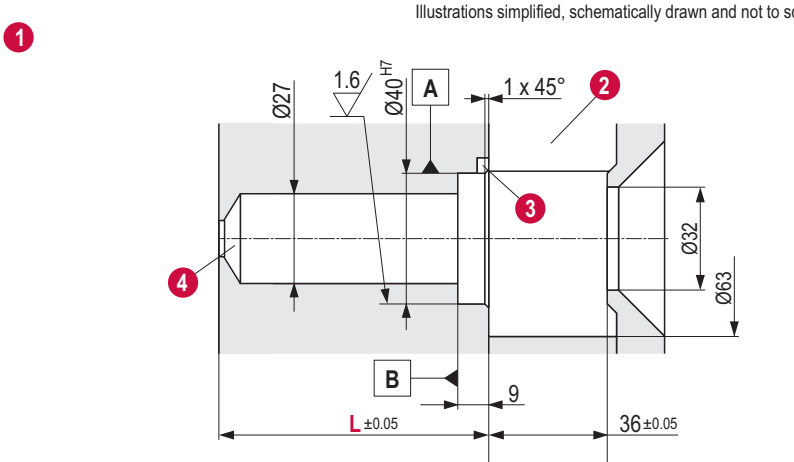
1. Cut out for the nozzle

L Nozzle length

General tolerances: DIN ISO 2768-mK

Surfaces: 3.2 (1.6 0.8)

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

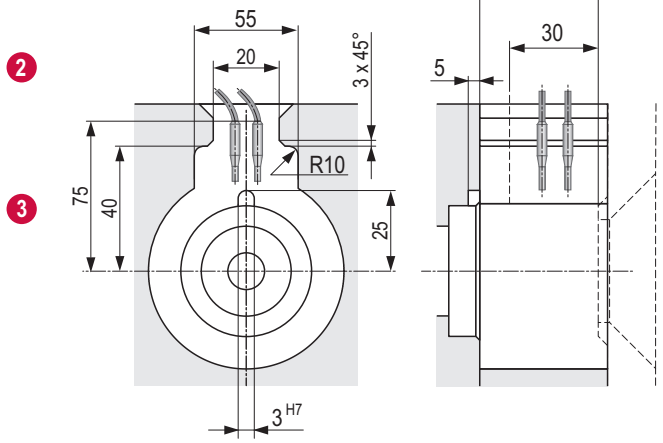


2. Cut out for connections

→electrical power
→thermocouple

3. Groove for locking pin

The locking pin secures the nozzle against rotation.



4. Cut out for the nozzle tip

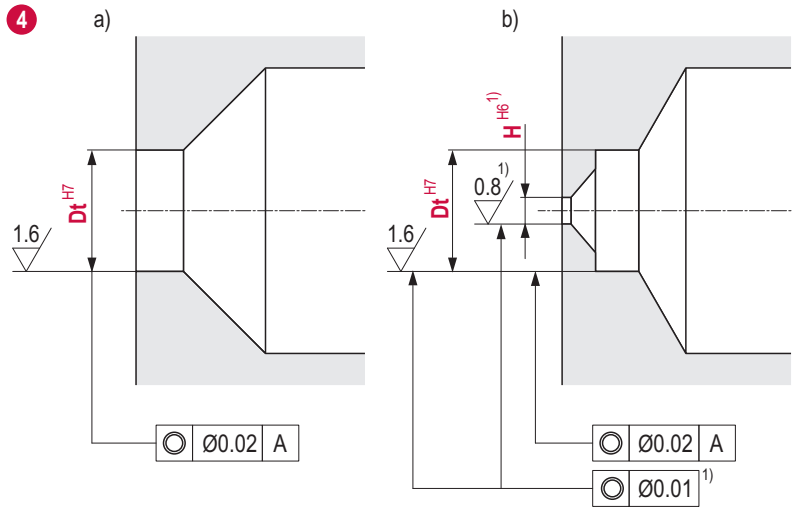
a) Through bore nozzle tip (Y...V)
b) Blind bore nozzle tip (W, X)

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) These data apply for valve gate nozzles.



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

Synventive molding solutions

CB YT E C P T A

Manifold nozzle, face fit, open with torpedo

Illustrations simplified, schematically drawn and not to scale.

You can configure your nozzle here

1. Complete the nozzle description [1)]

CB	YT	E	
Series & Type ↑			Length code ↑

2. Selection of variables

L=↑* H=↑ R=↑

*equal to the value of the length code for this series

Example and explanations

Series — Position in nozzle length chart [2)]

CB	YT	E	036
Series & Type ↑	Type [1)]		Length code ↑

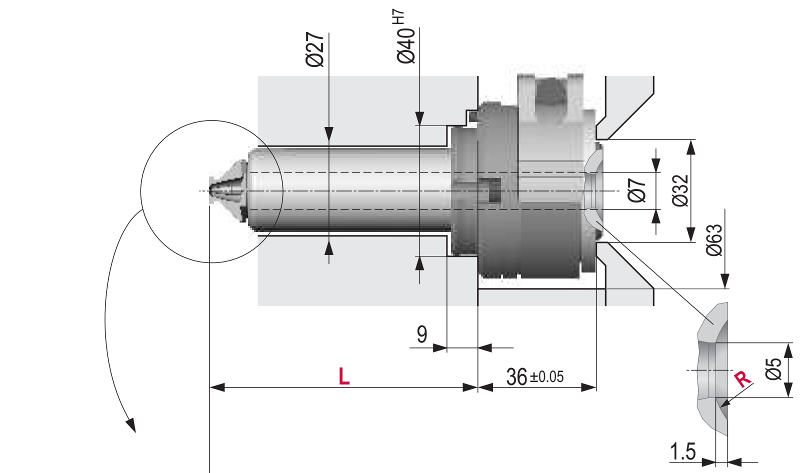
- **Y** Nozzle tip shape Y
  → for materials with narrow to medium process window
- **T** Gating type T: open with torpedo

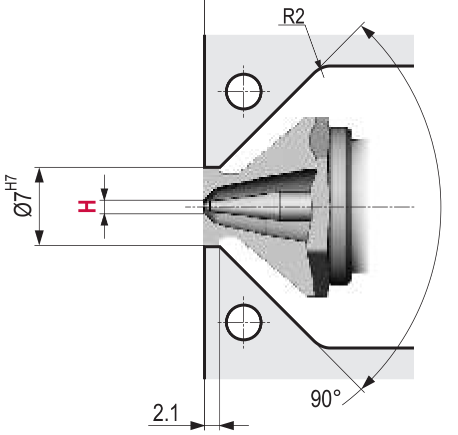
36	2.4	16
L=↑	H=↑	R=↑

Variables for precise nozzle specification from the drawings and tables shown here

H (mm)							
1.0	1.2	1.4	1.6	1.8	2.1	2.4	2.7

R (mm)
max. 40





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

please see page 2

"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

Length code	L (mm)	L1 (mm)	L2 (mm)	Heater zones power [3)] (Watt) 1	2	3	4	5	1...5
036	36	-	-	250	315	-	-	-	565
046	46	-	-	250	315	-	-	-	565
056	56	-	-	250	315	-	-	-	565
066	66	-	-	250	315	-	-	-	565
076	76	-	-	250	315	-	-	-	565
086	86	-	-	250	315	-	-	-	565
096	96	-	-	315	315	-	-	-	630
106	106	-	-	315	315	-	-	-	630
116	116	-	-	315	315	-	-	-	630
126	126	-	-	315	315	-	-	-	630
136	136	-	-	315	315	-	-	-	630
146	146	-	-	180	180	315	-	-	675
156	156	-	-	180	180	315	-	-	675
166	166	-	-	180	180	315	-	-	675
176	176	-	-	180	180	315	-	-	675
186	186	-	-	180	180	315	-	-	675
196	196	-		250	180	315	-	-	745
206	206	-	-	250	180	315	-	-	745
216	216	-	-	250	180	315	-	-	745
226	226	-	-	250	250	315	-	-	815
236	236	-	-	250	250	315	-	-	815
246	246	-	-	250	250	315	-	-	815

1) Nomenclature differences between older and newer nozzle series result from the revision of the nozzle range.
2) Depending on the nozzle series, the length code corresponds either to a particular nozzle length or to a range of lengths.
3) The numbering of the heating zones starts at the nozzle tip and ends at the nozzle head.

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

Synventive molding solutions

CB FT E
Manifold nozzle, face fit, open with torpedo

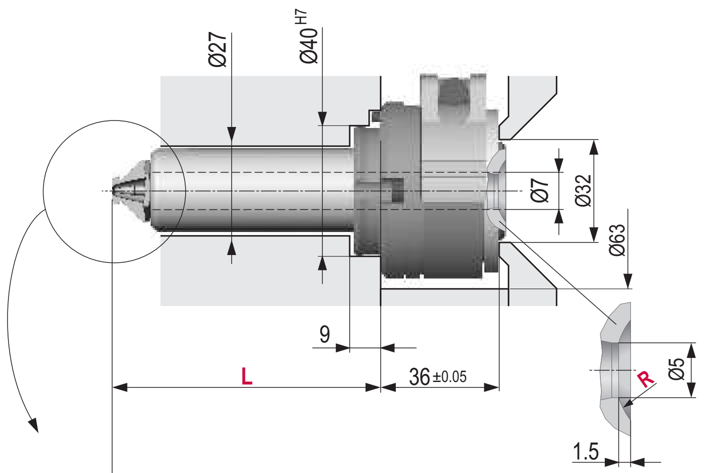
C P T A

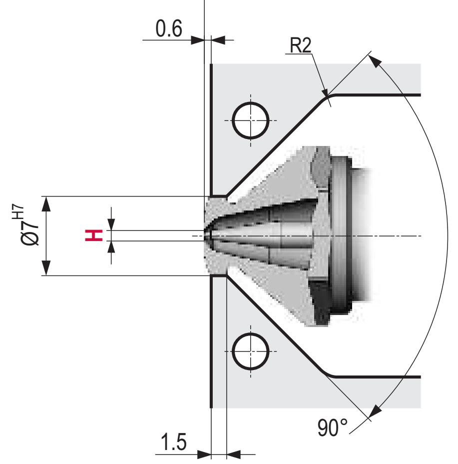
S

C

E

Illustrations simplified, schematically drawn and not to scale.





➔ Information regarding

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

please see page 2

"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

You can configure your nozzle here

1. Complete the nozzle description [1)]

CB FT E

Series & Type ↑ Length code ↑

2. Selection of variables

L=↑* H=↑ R=↑

*equal to the value of the length code for this series

Example and explanations

Series — Position in nozzle length chart [2)]

CB FT E 036

Series & Type ↑ Length code ↑

Type [1)]

- **F** Nozzle tip shape F
  →for materials with narrow to medium process window
- **T** Gating type T: open with torpedo

36 2.4 16

L=↑ H=↑ R=↑

Variables for precise nozzle specification from the drawings and tables shown here

H (mm)							
1.0	1.2	1.4	1.6	1.8	2.1	2.4	2.7

R (mm)
max. 40

Length code	L (mm)	L1 (mm)	L2 (mm)	Heater zones power [3)] (Watt) 1	2	3	4	5	1...5
036	36	-	-	250	315	-	-	-	565
046	46	-	-	250	315	-	-	-	565
056	56	-	-	250	315	-	-	-	565
066	66	-	-	250	315	-	-	-	565
076	76	-	-	250	315	-	-	-	565
086	86	-	-	250	315	-	-	-	565
096	96	-	-	315	315	-	-	-	630
106	106	-	-	315	315	-	-	-	630
116	116	-	-	315	315	-	-	-	630
126	126	-	-	315	315	-	-	-	630
136	136	-	-	315	315	-	-	-	630
146	146	-	-	180	180	315	-	-	675
156	156	-	-	180	180	315	-	-	675
166	166	-	-	180	180	315	-	-	675
176	176	-	-	180	180	315	-	-	675
186	186	-	-	180	180	315	-	-	675
196	196	-		250	180	315	-	-	745
206	206	-	-	250	180	315	-	-	745
216	216	-	-	250	180	315	-	-	745
226	226	-	-	250	250	315	-	-	815
236	236	-	-	250	250	315	-	-	815
246	246	-	-	250	250	315	-	-	815

1) Nomenclature differences between older and newer nozzle series result from the revision of the nozzle range.
2) Depending on the nozzle series, the length code corresponds either to a particular nozzle length or to a range of lengths.
3) The numbering of the heating zones starts at the nozzle tip and ends at the nozzle head.

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

Synventive molding solutions

CB LT E
Manifold nozzle, face fit, open with torpedo

CPTA

Illustrations simplified, schematically drawn and not to scale.

You can configure your nozzle here

1. Complete the nozzle description [1]

CB	LT	E
Series & Type ↑		Length code ↑

2. Selection of variables

L=↑*	H=↑	F=↑	R=↑

*equal to the value of the length code for this series

Example and explanations

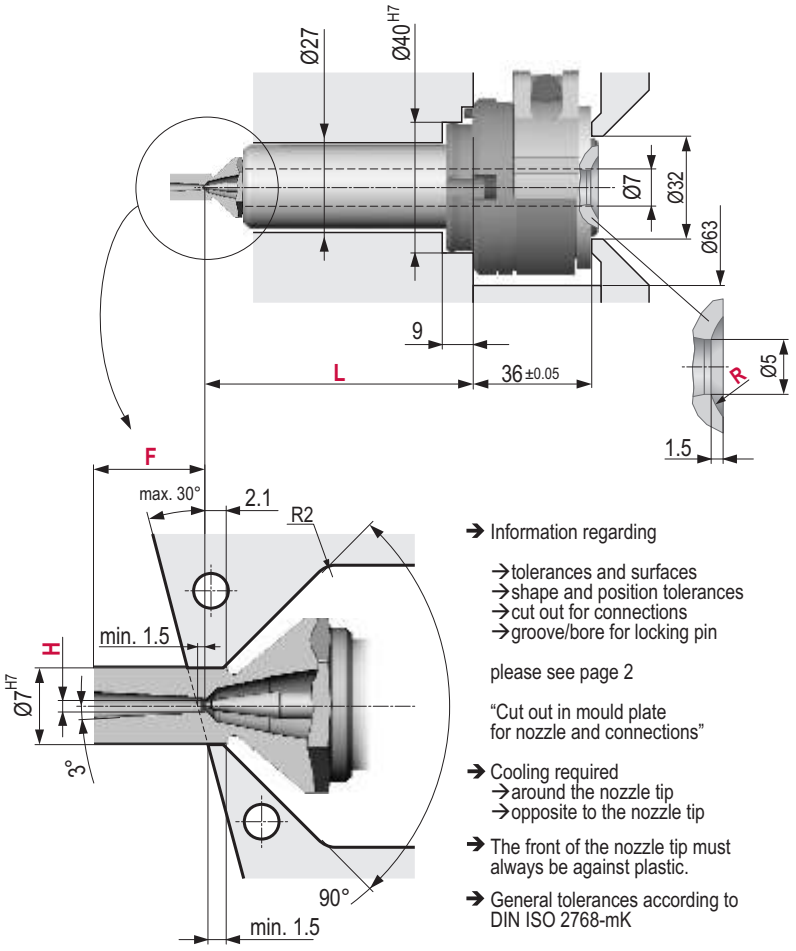
Series — Position in nozzle length chart [2]

CB	LT	E	036
Series & Type ↑	Type [1] ↑		Length code ↑

- **L** Nozzle tip shape L
  → for materials with narrow to medium process window
- **T** Gating type T: open with torpedo

36	2.4	10	16
L=↑	H=↑	F=↑	R=↑

Variables for precise nozzle specification from the drawings and tables shown here



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

please see page 2

"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

H (mm)							
1.0	1.2	1.4	1.6	1.8	2.1	2.4	2.7

F (mm)
10

R (mm)
max. 40

Length code	L (mm)	L1 (mm)	L2 (mm)	Heater zones power [3] (Watt)					
				1	2	3	4	5	1...5
036	36	-	-	250	315	-	-	-	565
046	46	-	-	250	315	-	-	-	565
056	56	-	-	250	315	-	-	-	565
066	66	-	-	250	315	-	-	-	565
076	76	-	-	250	315	-	-	-	565
086	86	-	-	250	315	-	-	-	565
096	96	-	-	315	315	-	-	-	630
106	106	-	-	315	315	-	-	-	630
116	116	-	-	315	315	-	-	-	630
126	126	-	-	315	315	-	-	-	630
136	136	-	-	315	315	-	-	-	630
146	146	-	-	180	180	315	-	-	675
156	156	-	-	180	180	315	-	-	675
166	166	-	-	180	180	315	-	-	675
176	176	-	-	180	180	315	-	-	675
186	186	-	-	180	180	315	-	-	675
196	196	-		250	180	315	-	-	745
206	206	-	-	250	180	315	-	-	745
216	216	-	-	250	180	315	-	-	745
226	226	-	-	250	250	315	-	-	815
236	236	-	-	250	250	315	-	-	815
246	246	-	-	250	250	315	-	-	815

1) Nomenclature differences between older and newer nozzle series result from the revision of the nozzle range.
2) Depending on the nozzle series, the length code corresponds either to a particular nozzle length or to a range of lengths.
3) The numbering of the heating zones starts at the nozzle tip and ends at the nozzle head.

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

Synventive molding solutions

CB WT E C P T A

Manifold nozzle, face fit, open with torpedo

S

You can configure your nozzle here

1. Complete the nozzle description [1)]

CB	WT	E	
Series & Type ↑			Length code ↑

2. Selection of variables

L=↑*	H=↑	R=↑

*equal to the value of the length code for this series

Example and explanations

Series — Position in nozzle length chart [2)]

CB	WT	E	036
Series & Type ↑	Type [1)]		Length code ↑

W Nozzle tip shape W
→for materials with narrow to medium process window

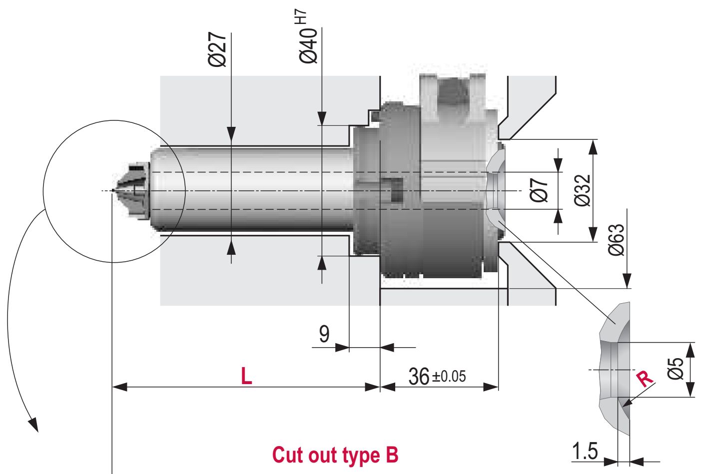
T Gating type T: open with torpedo

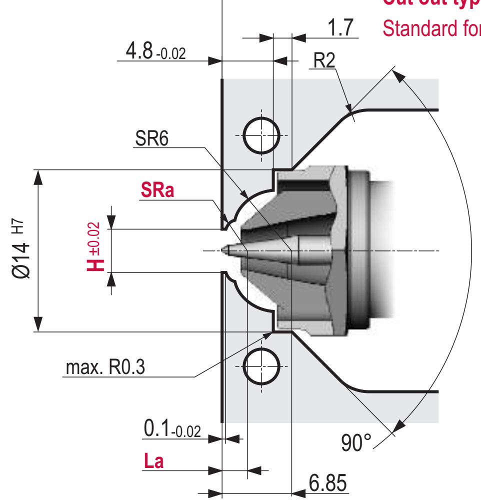
C

36	2.4	16
L=↑	H=↑	R=↑

Variables for precise nozzle specification from the drawings and tables shown here

Illustrations simplified, schematically drawn and not to scale.





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

please see page 2

"Cut out in mould plate for nozzle and connections"

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

➔ General tolerances according to DIN ISO 2768-mK

H (mm)									
0.6	0.8	1.0	1.2	1.4	1.6	1.8	2.1	2.4	2.7

R (mm)
max. 40

SRa (mm) for H =									
0.6	0.8	1.0	1.2	1.4	1.6	1.8	2.1	2.4	2.7
2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	3.0	3.0

La (mm) for H =									
0.6	0.8	1.0	1.2	1.4	1.6	1.8	2.1	2.4	2.7
2.58	2.57	2.55	2.53	2.50	2.47	2.43	2.37	2.85	2.78

E

Length code	L (mm)	L1 (mm)	L2 (mm)	Heater zones power [3)] (Watt)					
				1	2	3	4	5	1...5
036	36	-	-	250	315	-	-	-	565
046	46	-	-	250	315	-	-	-	565
056	56	-	-	250	315	-	-	-	565
066	66	-	-	250	315	-	-	-	565
076	76	-	-	250	315	-	-	-	565
086	86	-	-	250	315	-	-	-	565
096	96	-	-	315	315	-	-	-	630
106	106	-	-	315	315	-	-	-	630
116	116	-	-	315	315	-	-	-	630
126	126	-	-	315	315	-	-	-	630
136	136	-	-	315	315	-	-	-	630
146	146	-	-	180	180	315	-	-	675
156	156	-	-	180	180	315	-	-	675
166	166	-	-	180	180	315	-	-	675
176	176	-	-	180	180	315	-	-	675
186	186	-	-	180	180	315	-	-	675
196	196	-		250	180	315	-	-	745
206	206	-	-	250	180	315	-	-	745
216	216	-	-	250	180	315	-	-	745
226	226	-	-	250	250	315	-	-	815
236	236	-	-	250	250	315	-	-	815
246	246	-	-	250	250	315	-	-	815

1) Nomenclature differences between older and newer nozzle series result from the revision of the nozzle range.
2) Depending on the nozzle series, the length code corresponds either to a particular nozzle length or to a range of lengths.
3) The numbering of the heating zones starts at the nozzle tip and ends at the nozzle head.

Synventive molding solutions

CB WT E

Manifold nozzle, face fit, open with torpedo

C P T A

Illustrations simplified, schematically drawn and not to scale.

You can configure your nozzle here

1. Complete the nozzle description [1]

CB	WT	E	
Series & Type ↑			Length code ↑

2. Selection of variables

L=↑*	H=↑	R=↑

*equal to the value of the length code for this series

Example and explanations

Series — Position in nozzle length chart [2]

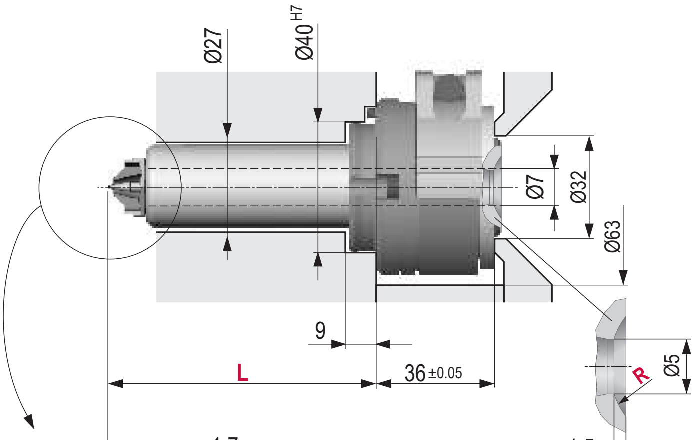
CB	WT	E	036
Series & Type ↑	Type [1]		Length code ↑

W Nozzle tip shape W
→for materials with narrow to medium process window

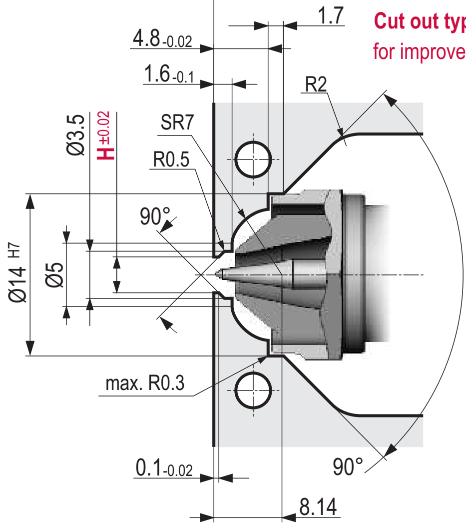
T Gating type T: open with torpedo

36	2.4	16
L=↑	H=↑	R=↑

Variables for precise nozzle specification from the drawings and tables shown here



Cut out type C
for improved colour change



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

please see page 2

"Cut out in mould plate for nozzle and connections"

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

➔ General tolerances according to DIN ISO 2768-mK

H (mm)									
0.6	0.8	1.0	1.2	1.4	1.6	1.8	2.1	2.4	2.7

R (mm)
max. 40

Length code	L (mm)	L1 (mm)	L2 (mm)	Heater zones power [3] (Watt)					
				1	2	3	4	5	1...5
036	36	-	-	250	315	-	-	-	565
046	46	-	-	250	315	-	-	-	565
056	56	-	-	250	315	-	-	-	565
066	66	-	-	250	315	-	-	-	565
076	76	-	-	250	315	-	-	-	565
086	86	-	-	250	315	-	-	-	565
096	96	-	-	315	315	-	-	-	630
106	106	-	-	315	315	-	-	-	630
116	116	-	-	315	315	-	-	-	630
126	126	-	-	315	315	-	-	-	630
136	136	-	-	315	315	-	-	-	630
146	146	-	-	180	180	315	-	-	675
156	156	-	-	180	180	315	-	-	675
166	166	-	-	180	180	315	-	-	675
176	176	-	-	180	180	315	-	-	675
186	186	-	-	180	180	315	-	-	675
196	196	-		250	180	315	-	-	745
206	206	-	-	250	180	315	-	-	745
216	216	-	-	250	180	315	-	-	745
226	226	-	-	250	250	315	-	-	815
236	236	-	-	250	250	315	-	-	815
246	246	-	-	250	250	315	-	-	815

1) Nomenclature differences between older and newer nozzle series result from the revision of the nozzle range.
2) Depending on the nozzle series, the length code corresponds either to a particular nozzle length or to a range of lengths.
3) The numbering of the heating zones starts at the nozzle tip and ends at the nozzle head.

S

C

E

www.synventive.com

MK-PRM.BRM.GB-P.ICB__E 2009-05-01

Synventive
molding solutions