



Advanced Series



DME WARRANTY CONDITIONS FOR HOT RUNNERS AND HOT HALVES

The rights of a purchaser of DME products are given in DME's general sales conditions.

For complete Hot Runner Systems (manifold with nozzles) and Hot Halves (Fixed half minus Cavity plate) the following addition conditions apply with extended warranty.

EXTENDED WARRANTY ON COMPLETE HOT RUNNERS AND HOT HALVES

DME guarantees that the construction, components and function of our hot runners will conform to the technical specifications subject to normal use and maintenance and assuming correct installation as per the DME instruction manual, for a limited period following delivery. If components do not conform to specifications or are defective, DME will replace the necessary components.

The length of warranty is as follows:

3 years:

For Hot Halves used with the latest model DME hot runner temperature controllers and with DME connectors

1 year:

For complete hot runners used with the latest model DME hot runner temperature controllers and with DME connectors

REPLACEMENT/REPAIR OF COMPONENTS

DME reserves the right, using new or repaired components, to self repair our hot runner systems and Hot Halves. The repair location will be determined by DME. Defective components will be replaced by new or repaired components of an equivalent quality/specification. The repair or replacement of defective components does not extend the length of the warranty period.

DME will inform the purchaser if components covered by the warranty need to be returned or disposed of.

If the purchaser, upon request from DME, cannot return the defective components for evaluation and the components therefore cannot be determined as faulty, DME reserves the right to charge for replacement components.

DME reserves the right to choose the transport method for sending replacement parts covered during the warranty period.

If it is determined the parts that are to be replaced are not covered by the warranty, the purchaser will be liable for the cost of these components.

LIMITATIONS

This warranty does not cover:

- Damage due to modification of the hot runner by the customer or third party, or other circumstances beyond DME's control.
- Damage due to incorrect use, installation, lack of maintenance, misuse or carelessness by the purchaser, his representatives or subcontractors.
- Damage to a system used with injection pressure above 2000bar if the system has not been specifically designed and constructed, in consultation with DME, for high pressure.
- Damage not occurring to the DME products themselves, other damage, personal injury, damage to property or damage or claims due to breakdowns or delays in production.
- Normal wear of components including, but not limited to, nozzle-tips, inserts, seals, o-rings, cylinder seals, injection needles.
- Damage due to corrosion or processing abrasive/aggressive plastic materials.
- Damage resulting from use of DME components modified by the customer or use of non-standard components.
- Claims or damage resulting from components or apparatus delivered by DME but not produced by DME. In such cases DME will make every effort to transfer the warranty offered by the manufacturer to the purchaser.
- Damage occurring to the purchaser through failing to respect relevant laws, regulations, guidelines or recommendations applying to the plastics industry.

The extended warranty assumes that the purchase price has been fully paid.

TRANSFER OF WARRANTY

The rights, arising from deficiencies, are only available to the original purchaser/user and are not transferrable. They cannot be claimed by others including, but not limited to, subsequent purchasers, users of the hot runner or their successors.

COMPLIANCE WITH SAFETY GUIDELINES AND EXEMPTION FROM LIABILITY

The buyer agrees to ensure that the hot runner is used and maintained according to the guidelines that are recommended by DME and customary laws.

The buyer takes over the liabilities the use of the hot runner brings with it and bears all risks associated with its use.

In no case will DME be responsible for requirements or costs associated with products that were made with the hot runner, nor for damages occurring as a result of their use.

Hot & Cold Runner Program

Standard Series

A series of products available in standard ranges, enabling the customer to configure and build a solution

- **Single Nozzles:** off-the-shelf nozzles and tips for integration with molds & components
- **Cool-One DIY:** budget line of Do-It-Yourself projects for simple solutions with limited colour changes
- **Essentials:** the essential range of manifolds and nozzles for up to 4-drop systems producing products for simple materials (PE, PP, PS)
- **Standard Systems:** the solution for projects to be build using standard products from **DME** standard series

Custom Solutions

Tailored, customer specific projects delivering high quality output

- **Advanced Hot Runner Custom Solutions:** Turnkey solutions, starting from customer drawings, delivering full service
- **Cold Runner Custom Solutions:** Turnkey solutions for silicone products



Everything Hot Runners

From single nozzles to fully assembled hot halves ...
and everything in between



Applications
Engineering



Hot Sprue Bushing



Valve Gates



Full Hot Half
Systems



Nozzles

at **DME**, we've been in hot runners since the very beginning of this powerful technology – from introducing the "Cool One" in 1972 all the way up to advancing new Electric Valve Gate technology today.

DME has a comprehensive and continuously evolving selection of high-performing hot runner components and systems that's second to none. and no matter how much or how little you need from **DME** for your system, rest assured it always comes with our expert support and commitment to your success.

- **A complete range of products.**
From single nozzles, to multi-nozzle assemblies, to fully assembled hot halves for virtually any need.
- **Applications engineering.**
Determining the right hot runner for your application and maximizing results.
- **Moldflow modeling.**
To make sure your process and your system are optimized for your application.
- **Responsive service.**
Startup, repair and rebuild – at our facility or yours.

First, turn to **DME's** experienced team of mold designers and applications engineers for help determining which of two main varieties of hot runner systems you need.

We'll look at the materials you'll be running, temperatures, drop locations, gate diameter, viscosity

and more to determine your ideal hot runner options for the most material savings, shortest cycle times and greatest part quality enhancements possible.

Valve Gates

- Good for superior gate cosmetics, sequential part
- filling and the elimination of trimming and secondary operations
- Available in hydraulic, pneumatic and electric actuation
- For nearly any material type and from small to large parts
- Our fully integrated multi-use valve gate system, is ideal for products that require different production volumes

Thermal Gates

- The more common option, available at relatively lower costs and in a greater variety of standardized products
- Great for high cavitation molds with close cavity pitch dimensions
- A range of externally heated systems for outstanding processing results

Whatever your application, **DME** has the right solution – with the widest selection of high-quality hot runner components and systems in the marketplace.



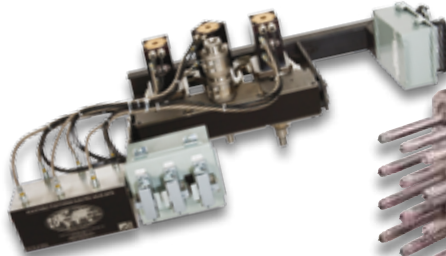
EVERY STEP OF THE WAY



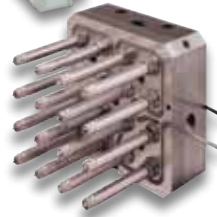
Thermal
Gates



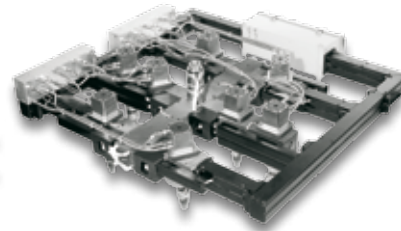
Manifolds and Nozzles



Electric
Valve Gates



Multi-Nozzle
Assemblies



Unitized
Systems

Nozzles

Whether you're building your own hot runner or replacing parts in an existing system, **DME** has the nozzles that will help make your project a success. Because we understand the need for heater replacements and other maintenance, nearly all of our nozzles are front loading for fast, simple service access to your system.

Manifolds and Nozzles

DME manifold-and-nozzle combinations or multi-nozzle assemblies provide customers with the foundation for building a world-class hot runner system.

Every one of our industry-leading nozzles and full hot half systems offer complete flexibility for your unique application.

Hot Sprue Bushings

When you have a single-cavity mold but still need the benefits of a hot runner system, the hot sprue bushing is your solution. **DME** offers several great models to customize to your application.

Hot One hot Sprue Bushings can handle engineered and commodity resins. Straight-Shot will help you reduce cycle times and save on material. Gate-Mate minimizes gate vestige and eliminates the witness lines commonly found on direct gated parts.

Full Hot Half Systems

Need a custom hot runner system reflecting your unique gate locations, materials and other parameters? Looking for a proven standardized system for greater cost effectiveness?

Either way, you've come to the right place. **DME** has total system solutions for every need:

- **High cavitation** up to 96 cavities.
- **Economical choices** for direct gating at high cavitation and low cost.
- **Easy operation** as the industry standard in user-friendliness, reliability and affordability.
- **"Green" molding** with the first system engineered to overcome the unique challenges of processing biodegradable, starch-based resins including polylactic acid (PLA).
- **Quick delivery** up to 8-drop configurations

Plus, when you choose **DME**, you can also get valuable extras that competitors don't offer – including an installation kit with all rails, plate work you need for a complete, turnkey hot runner package; and advanced temperature controls optimized for your hot runner system.

Technical Service Center: Dedicated support to ensure your success

Repairs



Operator training



R&D expertise



Rebuilds



Reconfiguration



Superior Solutions

- service is a valuable product - both for the customer and for **DME**
- service enables ongoing business relationships with our customer base and offers opportunities for the after-sales market
- our customers need to benefit from solid service support while feeling comfortable making a selection among his main suppliers

In the relentless drive to reduce costs, improve part quality and speed time to market, hot runners are an increasingly hot item. But every application is unique. How can you ensure you get a hot runner system that delivers all the results you're looking for in your project? **DME** is your essential resource for everything in Hot Runners... Every step of the way.

Quick, cost-effective hot runner service **DME** is committed to help you optimize the performance of your hot runner systems. Applying the knowledge we've gained over nearly 30 years of providing hot runner technology to customers worldwide, the **DME** hot runner service center continues to deliver fast, cost-effective service. Whether your system is from **DME** or not, we'll get it into shape and back in your shop quickly!

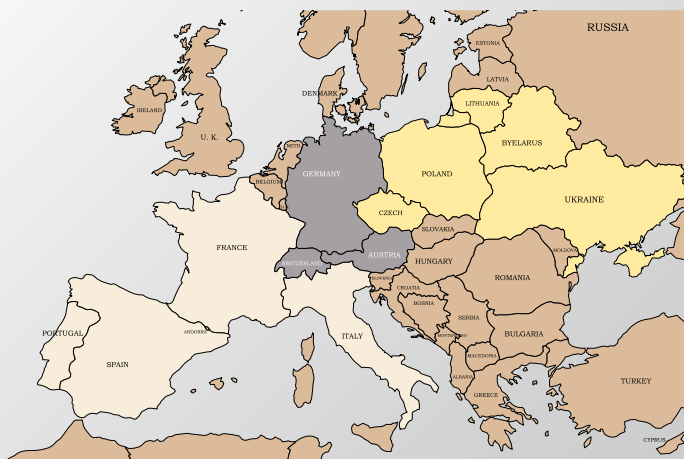
Talk to your regional DME hot runner specialist.

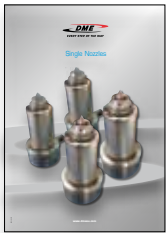
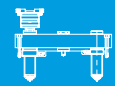
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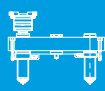
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The following criteria should be known before selecting the system best suited for your application: part weight, material being processed and the preferred gate location based on the part geometry and flow/fill analysis.

Design Steps

Step 1: browse through the following pages to become familiar with **DME's** Advanced Series hot runner systems and terminology.

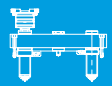
- Review the "Design Principles" section for explanations on the **DME** Advanced Series system and its integration. It is absolutely essential that the criteria listed in this section be met in order to receive full performance from your **DME** Advanced Series hot runner system.
- Use "Hot Runner selection" to define the hot runner system and product line(s) suitable for your part weight. Subsequent pages in this section will help you determine the most appropriate gating method and gate diameter.

Step 2: Having defined your system, obtain the appropriate design pages showing the nozzle and accessories your require such as valve actuators.

The hot runner product line most suitable for your application depends primarily on the shot weight of the part. DME has developed a number of hot runner systems to allow the direct hot runner processing of parts ranging from very small to extremely large, while using all types of thermoplastics.

Once you have selected the most suitable hot runner product line, based on the part weight, the following pages will assist you in the selection of the optimal gating style.

Product line	Approximate shot weight			Nozzle runner Ø mm
	high viscosity	medium viscosity	low viscosity	
Non valve				
Series 10	≤ 10g	≤ 6g	≤ 3g	4
Series 12	≤ 20g	≤ 12g	≤ 8g	5
Series 15	≤ 60g	≤ 35g	≤ 20g	7
Series 20	≤ 200g	≤ 120g	≤ 80g	10
Series 25	≤ 600g	≤ 350g	≤ 200g	12
Series 32	≤ 1500g	≤ 900g	≤ 600g	16
Series 40	≤ 4000g	≤ 2500g	≤ 1500g	20
Valve				
Series 20	≤ 120g	≤ 70g	≤ 30g	8
Series 25	≤ 400g	≤ 250g	≤ 150g	12
Series 32	≤ 1000g	≤ 600g	≤ 400g	18
Series 40	≤ 2000g	≤ 1200g	≤ 800g	22








Hot Tip Gate

Hot Tip gating is the most commonly used gating method. Acceptable for crystalline and amorphous materials, this method relies on gate diameter, gate area cooling and temperature control at the tip to optimize the part quality.


Hot Tip gating leaves a small mark on the molded part surface (gate vestige). The size of this mark is in direct relation to the gate geometry and material properties. The less notch sensitive thermoplastic, or the larger the gate diameter, the more the vestige will protrude. For this reason, the gate is often sunk into a spherical depression (referred to as a 'technical gate') so that the mark does not protrude above the part surface.

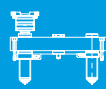
Hot Tip gating is generally not suitable for shear sensitive and filled materials due to the high temperature/high shear effects of the relatively small gate openings.

Tip	specification
 <p>I-Type Torpedo IT</p>	The I-type Torpedo gate has its sealing on the nozzle body. Its torpedo and body are in the same component. It does not offer color replaceable function as found on the C-type. It is suitable for lower processing temperature of amorphous and semi-crystalline materials.
 <p>E-Type Torpedo ET</p>	The E-type Torpedo gate has its sealing on the nozzle body. It does not offer color replaceable function as found on the C-type. It is suitable for lower processing temperature of amorphous and semi-crystalline materials.
 <p>S-Type Torpedo ST</p>	The S-type Torpedo gate has its seal on the tip fastener. It does not offer color replaceable function as found on the C-type. It is suitable for lower processing temperature of amorphous and semi-crystalline materials.
 <p>C-type Torpedo CT</p>	The C-type Torpedo is good at color changes. It is suitable for amorphous and semi-crystalline materials.
 <p>C-Type Torpedo with bushing CTB</p>	The C-type torpedo is a Hot Tip version that has a bushing with it. Its gating style is good at color changes. The F-type torpedo runs slightly warmer than the other Hot Tip Gate types, making the F-type more suited for crystalline grades.

Sprue Gating

Sprue Gating is an "open" gate, characterized by a small cold sprue remaining on the surface of the molded part. The relatively large gates (though not suited for "stringy" materials) permit good packing with reduced part stresses. Applications include technical components where gate appearance is not critical and gating onto cold sub runners.







Tip	specification
 <p>Hot Sprue HS</p>	For crystalline thermoplastics with rapid solidification characteristics. The tip of the Hot sprue nozzle conducts heat into the gate area to prevent premature gate solidification. The Hot sprue gate and length is normally unfinished to permit nozzle profiling and length adjustments by the moldmaker.

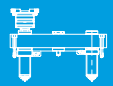


With this gating method, the valve pin tip mechanically closes the gate on completion of the holding pressure time. Since pin closing occurs before the gate solidifies, valve gates frequently offer decreased cycle times when compared to open gating methods. Unlike other gating methods, valve gating creates no gate vestige but leaves only a barely visible ring making it best suited for high surface quality products.

Due to the relatively large gate openings, reduced shear heat and pressure drop is realized with this gating method. As a result, valve gating imparts lower mold filling stresses and gives a wide processing window suitable for even the most difficult thermoplastics that contain sensitive additives. With all materials, valve gating results in better part characteristics, especially with higher shot sizes and injection speeds. For stringy materials, this gating method eliminates the possibility of drooling entirely.

Although normally oriented perpendicular to the part surface, valve gates can also gate onto inclined or profiled surfaces. **DME** offers several types of valve gates to accommodate the varying solidification rates of different thermoplastics.

Tip	specification
 <p>Bi-Metallic C-Valve CV</p>	The Bi-Metallic C-Valve uses a material insulation layer to maximize thermal separation in the gate area. The conductive insert provides processing temperatures up to the gate, avoiding heating the mold steel in the around gate. It is suited for all materials.
 <p>Bi-Metallic Extended C-Valve CVE</p>	It has the behaviour identical with the Bi-Metallic C-Valve, ideal for gate with cavity inclined up to 10° with respect to the orthogonal plane of the injector axis. It is suited for amorphous and semi-crystalline materials.
 <p>Bi-Metallic C-Valve with bushing CVB</p>	It has the behaviour identical with the Bi-Metallic C-Valve. The extra peculiarity is that the bushing arrives into part, it simplifies the operations in the mold. It is suited for all materials.
 <p>Bi-Metallic Extended C-Valve with bushing CVEB</p>	It has the behaviour identical with the Bi-Metallic Extended C-Valve, the extra peculiarity is that the bushing arrives into part, it simplifies the operations in the mold. It for suited to all materials.
 <p>E-Type Valve EV</p>	The E-Type Valve eliminates premature gate sealing by allowing greater heat conduction into the gate area. This gating style maintains an open gate to permit sufficient packing prior to valve pin closing . It is suitable for crystalline materials.
 <p>Bi-Metallic W-Valve WV</p>	The Bi-Metallic W-Valve uses a wearable material as part of the runner, make it more wearable than the C-Valve. It is suited for amorphous materials



Gating method & material selection table

Info

Material												
Amorphous materials												
PPO												
PEI												
PMMA												
ABS												
SAN												
PS												
SB												
PES												
PSU												
PVC												
PC												
CAB												
TPU												
Crystalline materials												
PE												
PP												
LCP												
PET												
PBT												
PPS												
PEEK												
PA (6,6, 6, 610, 11, 12)												
POM												
Additives												
Flame retardants												
Fillers												
Reinforcements												
Stabilizers												
Shear sensitive additives												

recommended
 requires review
 not recommended

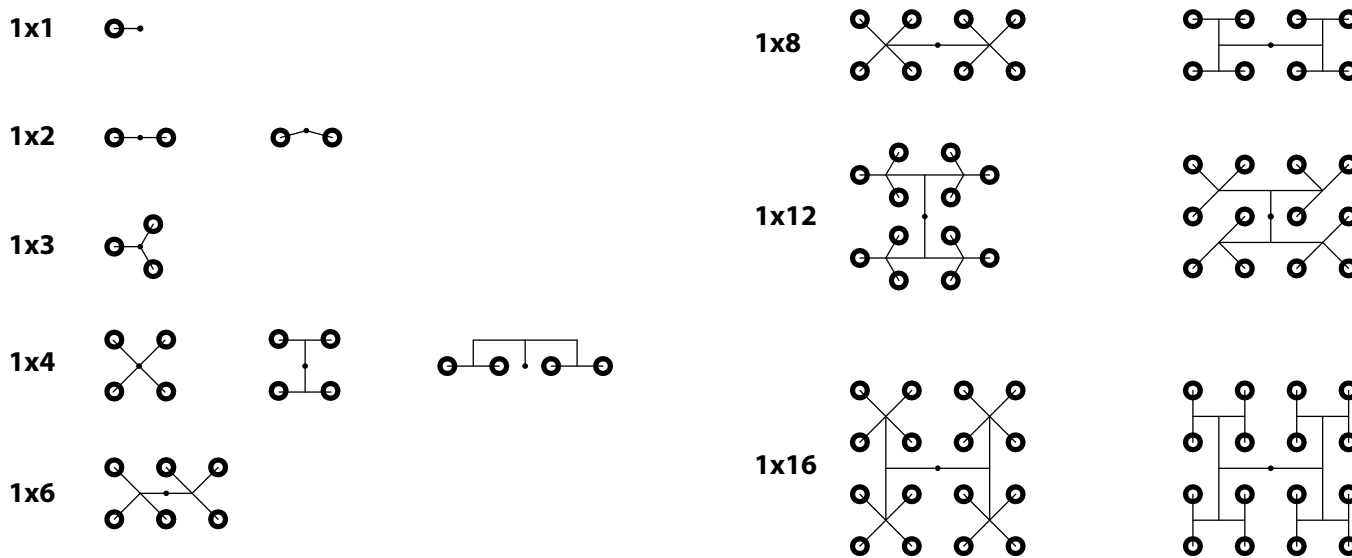


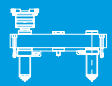
Info

Typical processing conditions

Material Range	Temperature (°C)			
	Melting temperature	Processing temperature	Mold temperature	Temperature variation
Amorphous Materials				
PPO	120	300	80	180
PEI	215	371	100	155
PMMA	100	245	70	145
ABS	110	250	75	140
SAN	115	255	80	140
PS	100	225	45	125
SB	100	225	70	125
PES	230	350	150	120
PSU	200	315	150	115
PVC	100	195	35	95
PC	220	300	90	80
CAB	140	215	55	75
TPU	150	210	35	60
Crystalline Materials				
PE	140	250	25	110
PP	265	255	35	90
LCP	330	400	175	70
PA11	175	230	60	55
PA12	175	230	60	55
PET	245	285	140	40
PBT	225	265	60	40
PPS	290	330	110	40
PEEK	335	375	160	35
PA610	215	250	90	35
PA6	220	250	90	30
PA6;6	255	285	90	30
POM	180	200	100	20

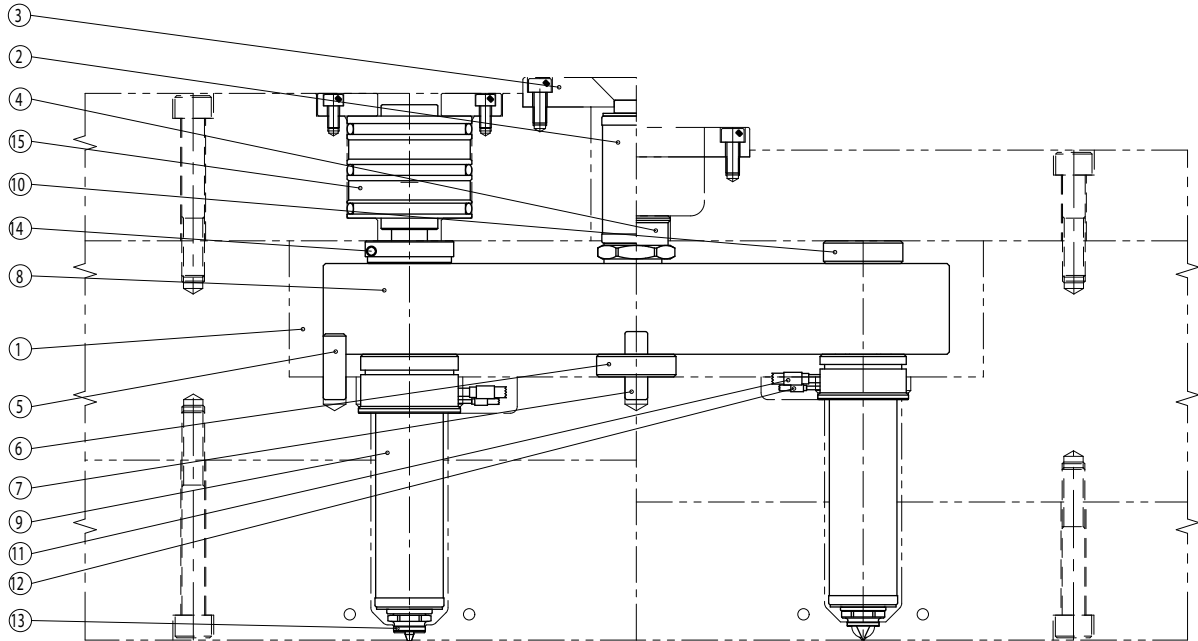
Typical manifold types





Hot Runner Terminology

This illustration is divided into two halves (valve side and non valve side) from typical **DME** hot runner systems. The terminology associated with the various components are listed below.



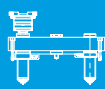
- | | | |
|---------------------------|-----------------------|------------------------------|
| 1. Air gap | 6. Center support pad | 11. Thermocouple |
| 2. Central heated adapter | 7. Center dowel | 12. Heater |
| 3. Locating ring | 8. Manifold | 13. Gate seal |
| 4. Central adapter | 9. Nozzle | 14. Valve support pad |
| 5. Dowel | 10. Upper support pad | 15. Hydraulic/Pneumatic unit |

Mold Steel

Designing a 'rigid' mold is a critical step in ensuring continuous problem free operation of the hot runner system. The main factors involved in designing a rigid mold hot half are listed below. Manifold plate steel must be sufficiently hard to prevent excessive setting of the surfaces or hobbing by the hot runner components. For this reason, the minimum plate hardness must be at least 32HRC. **DME** strongly recommends that a prehardened steel from 35 to 40HRC (Such as stainless steel AISI 420) be used. Failure to use a sufficiently hard steel, or the use of aluminum plates will lead to material leakage and possible system component damage.

Hot Runner system clearance

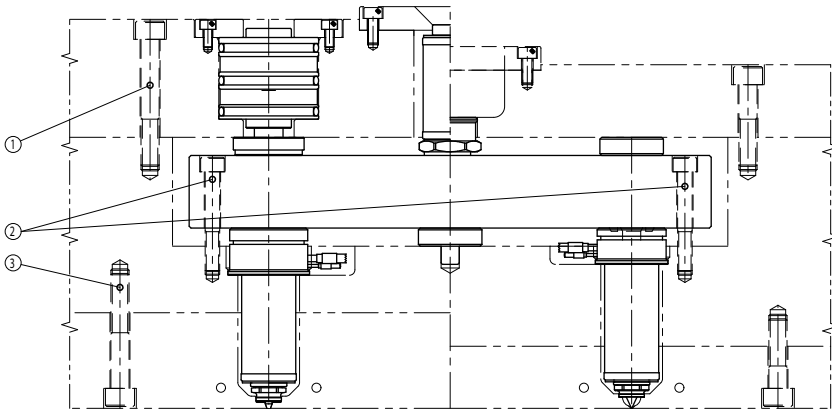
The uniform "air gap" clearance around the hot runner system acts as an insulator to prevent excessive heat loss which leads to system temperature imbalances. Too much clearance or open sides around the hot runner can prove detrimental to the successful operation of the system. Open sides will drain sufficient heat from the hot runner (chimney effect) that the system will contain severe temperature imbalance and possibly never reach the processing temperature. Of equal importance is the fact that open sides dramatically weaken the mold. Exceeding the recommended clearance around hot runner has the same effect in reducing mold rigidity.



Info

Assembly screws

Rigidity in the mold is also determined by the quantity and location of retaining screws in the manifold plates. The **DME** hot runner style that dictate the function of these manifold plate retaining screws. The systems rely on the manifold screws for sealing. Sufficient hot half plate screws in close proximity to the nozzles are required to keep plates together during installation and operation.



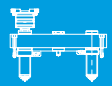
1. M12 assembly screws located close to manifold cut-out.
2. M8 / M10 manifold screws.
3. Cavity plate screws with split line below nozzle seat permits cavity plate removal for gate cleaning in the press.

Mold cooling

Although every effort has been made to minimize heat loss to the mold, conduction and radiation of heat into the mold plates will occur, and is in fact necessary to prevent overheating of the system. For this reason and to ensure similar heat expansion of all plates, each hot half plate must be water cooled. **DME** recommends that the top clamp plate also be cooled for all non valved systems.

Failure to do so, will result in heating of the top clamp plate and possible stationary platen expansion. This occurrence can result in tie bar misalignment and eventual mold seizure. Cooled hydraulic / pneumatic plates on valved systems are usually sufficient to cool the top clamp plate such that separate top clamp plate cooling is not required. A separate insulation plate to prevent heat loss through the top clamp plate to the platen is recommended when the mold temperature will be higher than 40°C.

It is proper mold design practice to have the electrical box at the top of the mold and cooling connections at the bottom. Drain slots exiting at the bottom of the manifold plates are also highly recommended. Should a cooling leak or excessive internal condensation occur, these features will help minimize the possibility of electrical hazards and heating circuit failure.



Gate Access

The ability to remove the cavity plate in the press is a mold design feature which adds little upfront mold cost, but can significantly reduce the molder's maintenance cost. The procedure is to provide a latch which can fasten the cavity plate to the moving half, so as to access the gate area and nozzle tip without removing the tool from the press. This is always a good design practice, but it is essential to utilize this technique with Hot Tip systems.

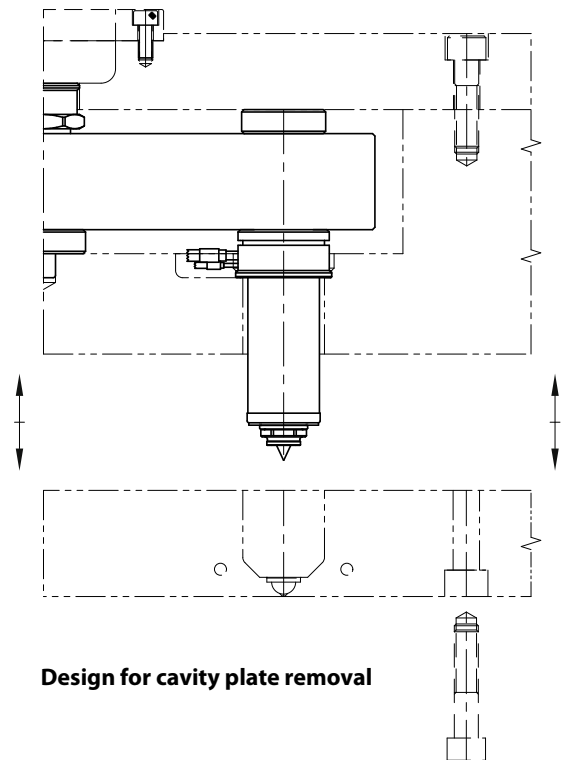
Gate / Land relationship

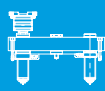
Gate and land tolerances are generally very tight. Adherence to a specific nominal gate diameter and land, although important, is in no way as critical as maintaining uniformity among all gates and lands. **DME** strongly recommends that the total variation between all gates and lands in your system does not exceed 0.05mm.

Gate Cooling

Sufficient gate area cooling is necessary for the proper operation of any hot runner system. Insufficient cooling slows the gate solidification (for non-valved systems), detracts from a quality gate appearance, and with some gating methods actually prevents proper functioning of the system. Hence, each gate should ideally have dedicated water cooling with exactly the same conditions as every other gate in the system.

For this reason, placing each gate cooling circuit in series should be avoided, as each subsequent gate will run slightly warmer than the previous one. Turbulent water cooling must be positioned in close gate proximity. It is especially critical to have good gate cooling for the amorphous and semi-crystalline applications.

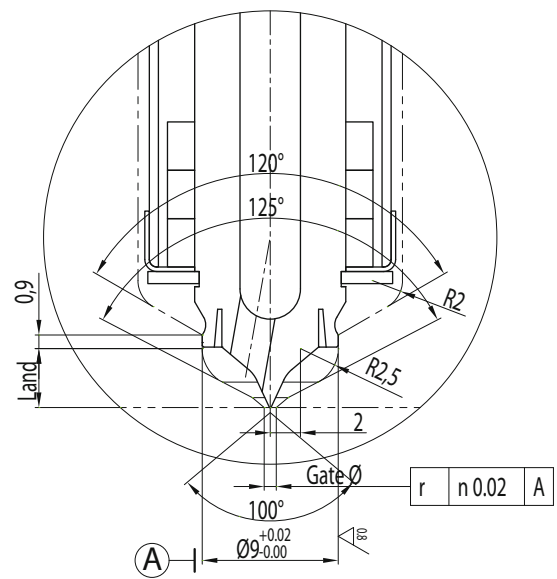
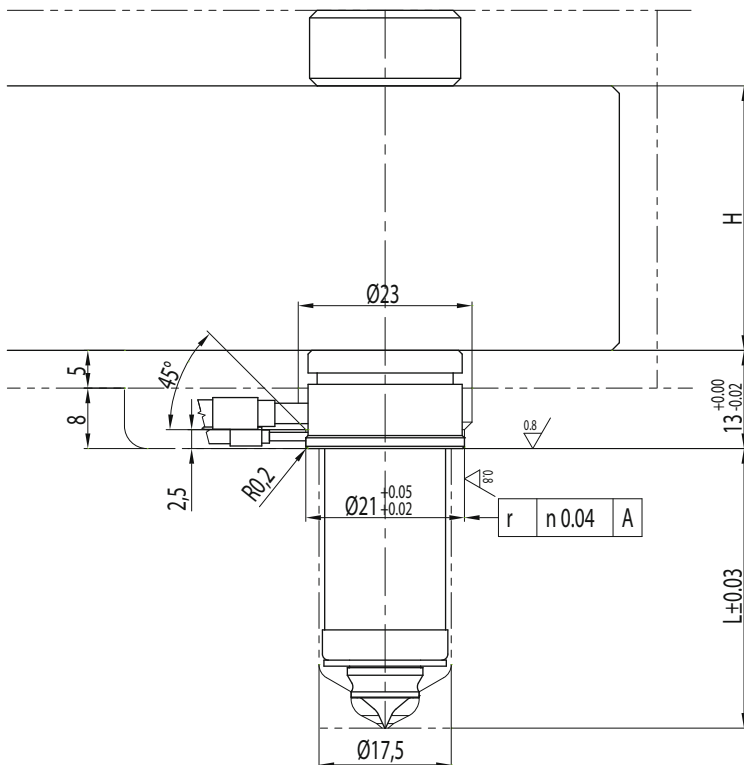
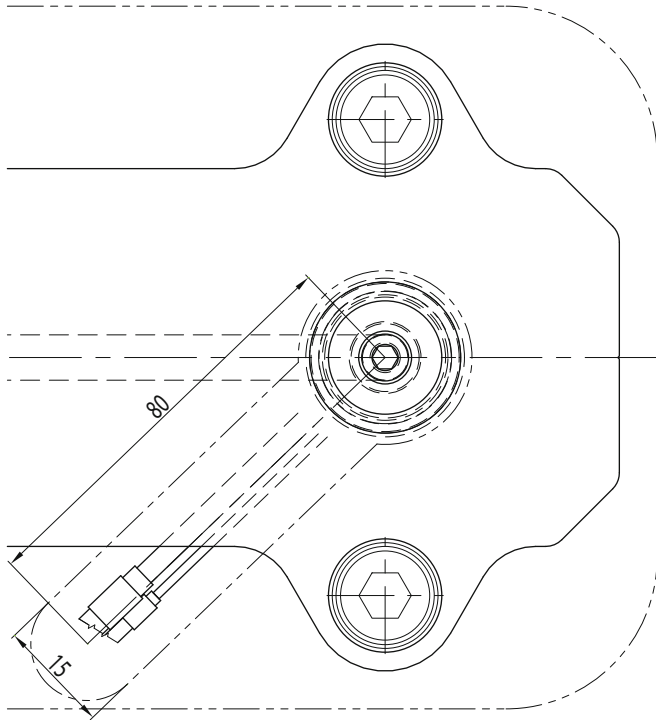




BX

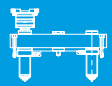
I-type torpedo (IT)

- suited for lower processing temperatures of amorphous and semi-crystalline materials
- used gating into the space-restricted area only
- not suited for color change



Related to the scope of size (when out of range, special design needed)

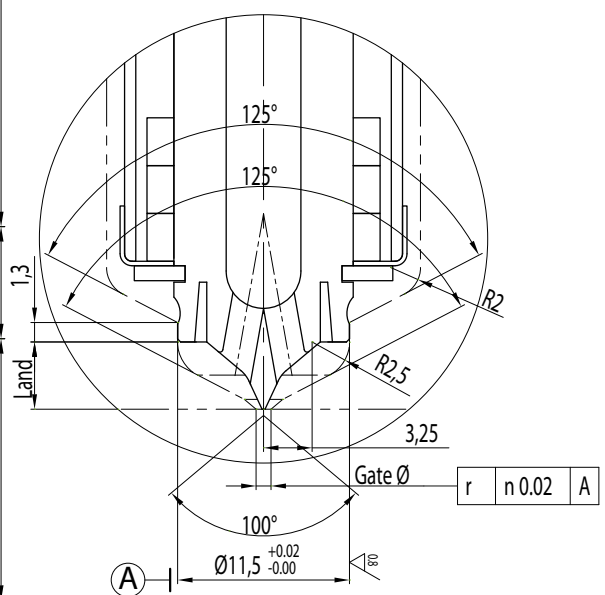
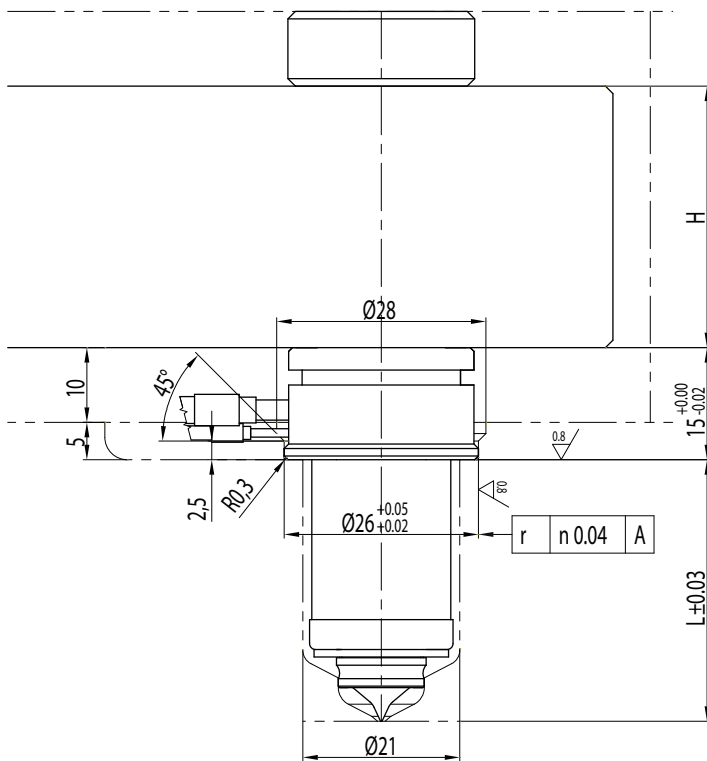
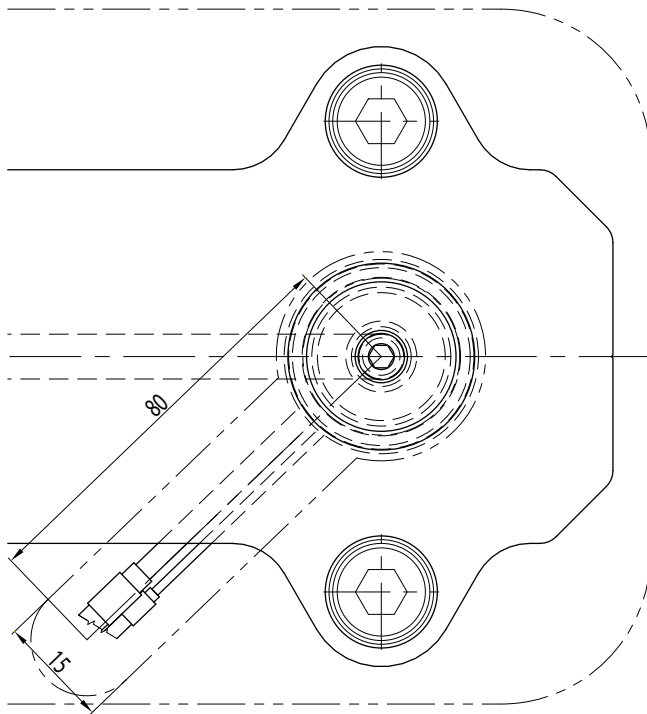
L	H	Gate Ø	Land
30 - 80	35, 40, 45, 50	0,6 - 1,0	3,9



BX

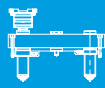
I-type torpedo (IT)

- suited for lower processing temperatures of amorphous and semi-crystalline materials
- not suited for color change



Related to the scope of size (when out of range, special design needed)

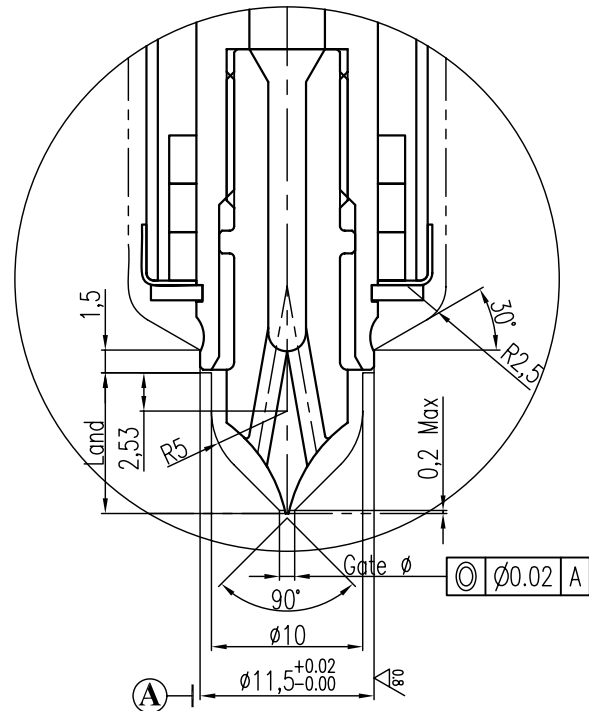
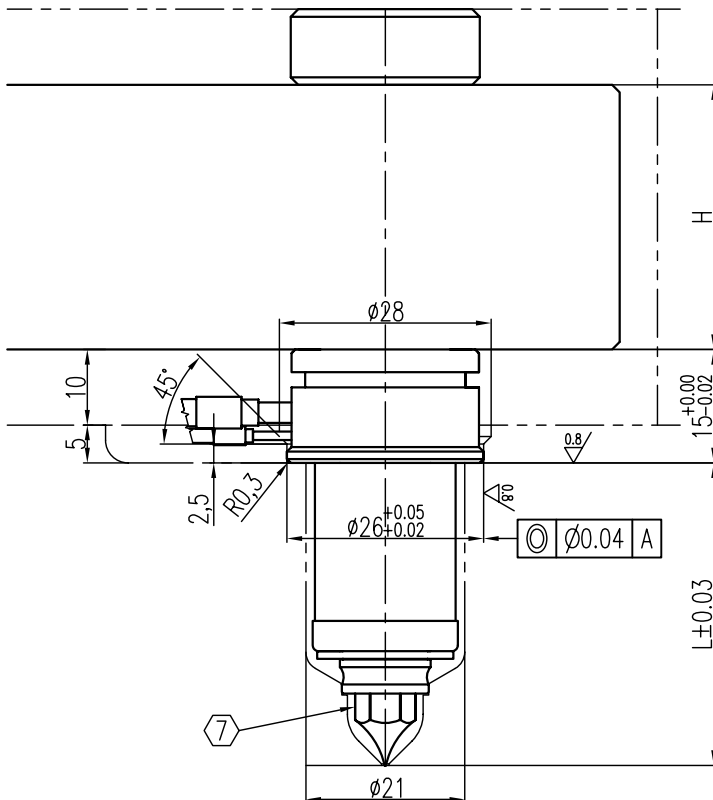
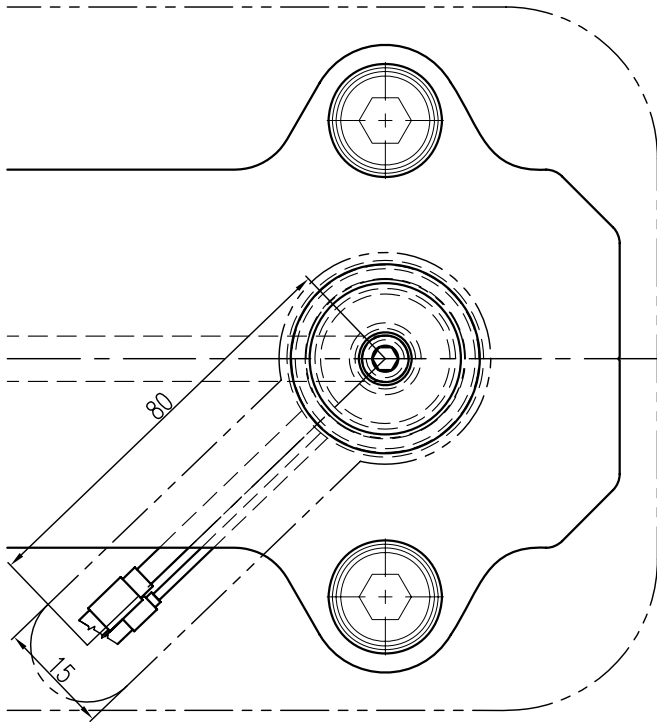
L	H	Gate Ø	Land
35 - 100	35, 40, 45, 50, 55	0,8 - 1,2	4,5



BX

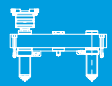
E-type torpedo (ET)

- suited for amorphous and semi-crystalline materials
- not suited for color change



Related to the scope of size (when out of range, special design needed)

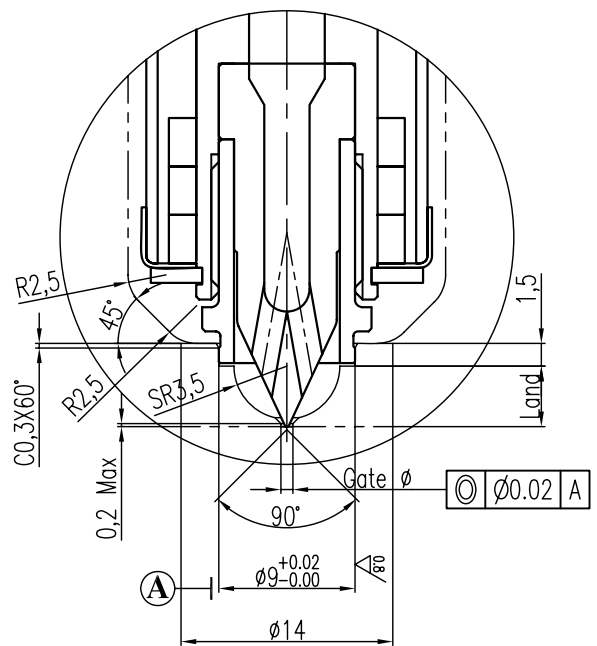
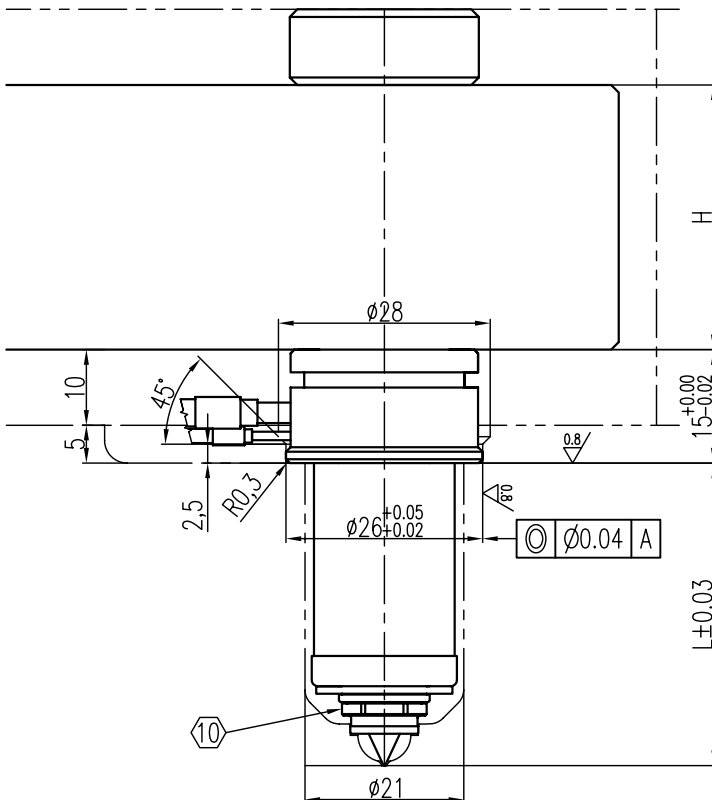
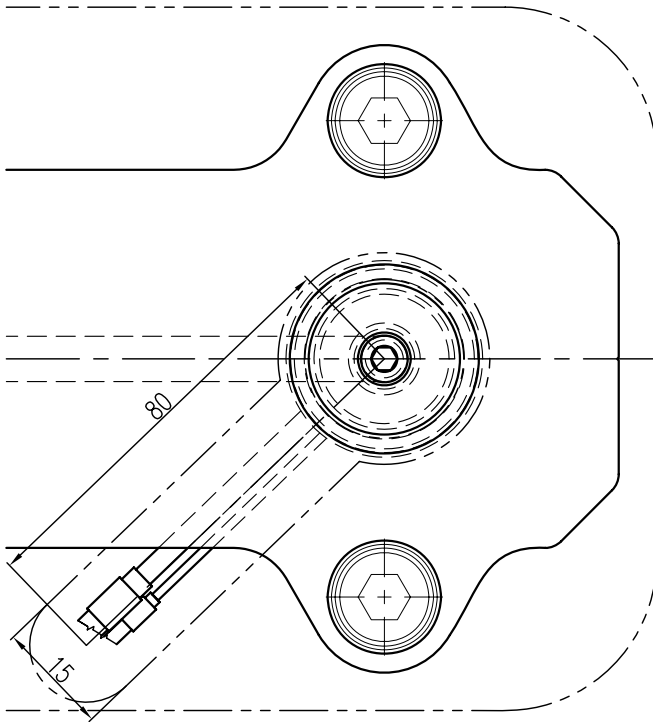
L	H	Gate Ø	Land
35 - 100	35, 40, 45, 50, 55	0,8 - 1,2	9,3



S-type torpedo (ST)

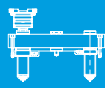
BX

- suited for lower processing temperatures of amorphous and semi-crystalline materials
- not suited for color change



Related to the scope of size (when out of range, special design needed)

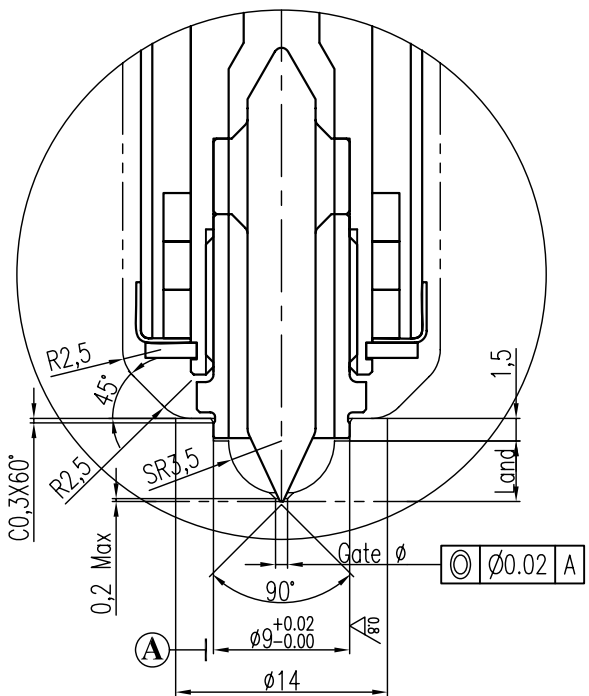
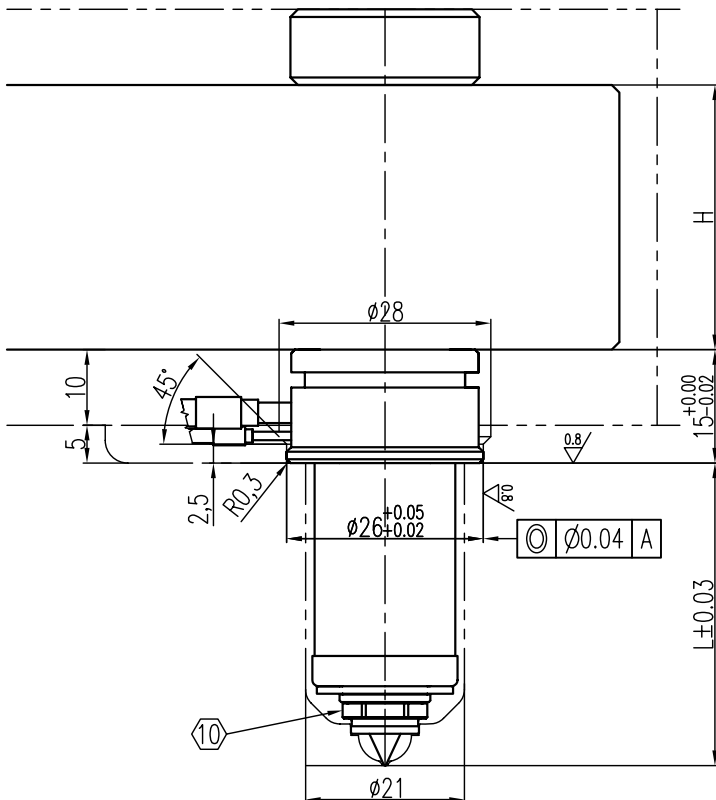
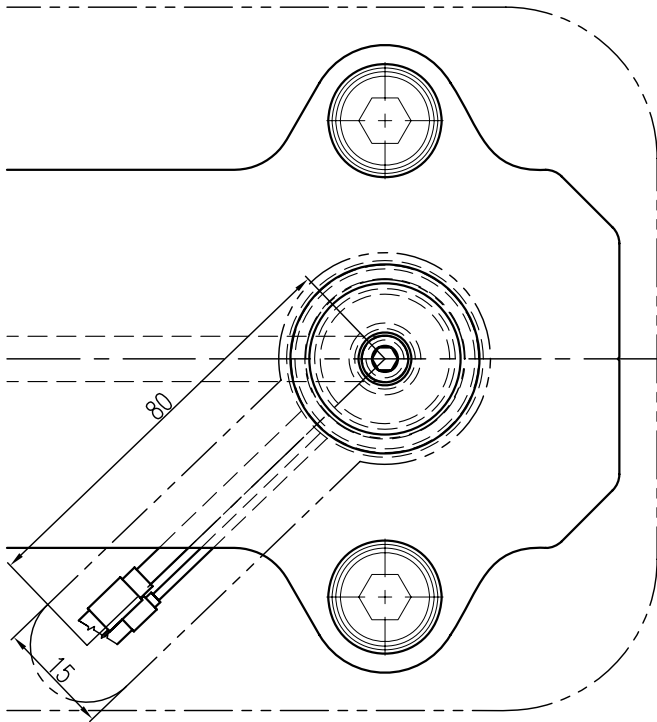
L	H	Gate Ø	Land
35 - 100	35, 40, 45, 50, 55	0,8 - 1,2	4



BX

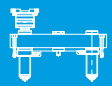
C-type torpedo (CT)

- suited for amorphous and semi-crystalline materials
- suited for color change



Related to the scope of size (when out of range, special design needed)

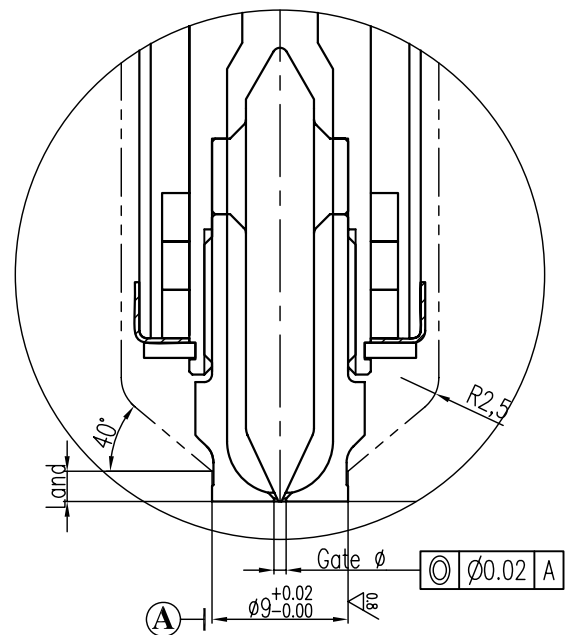
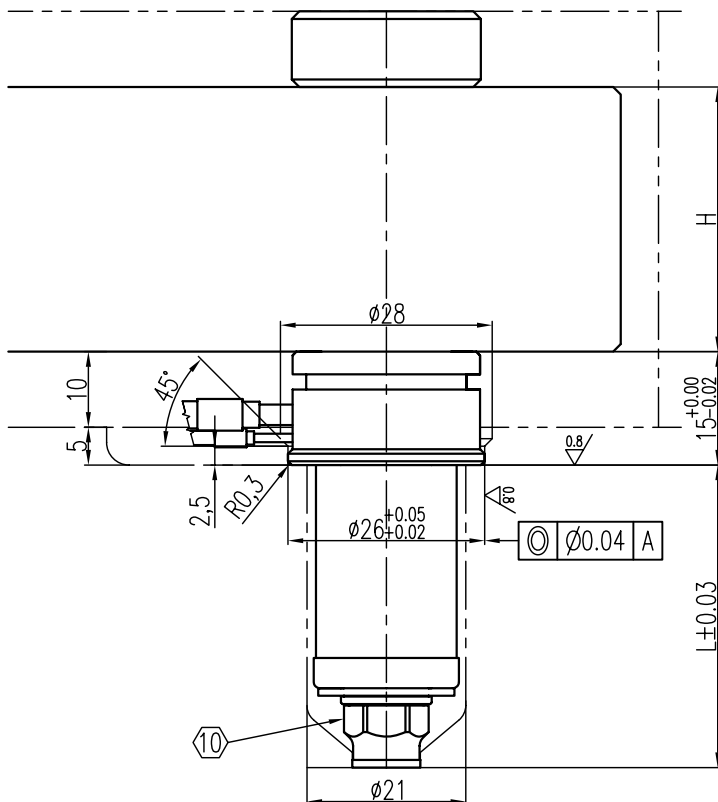
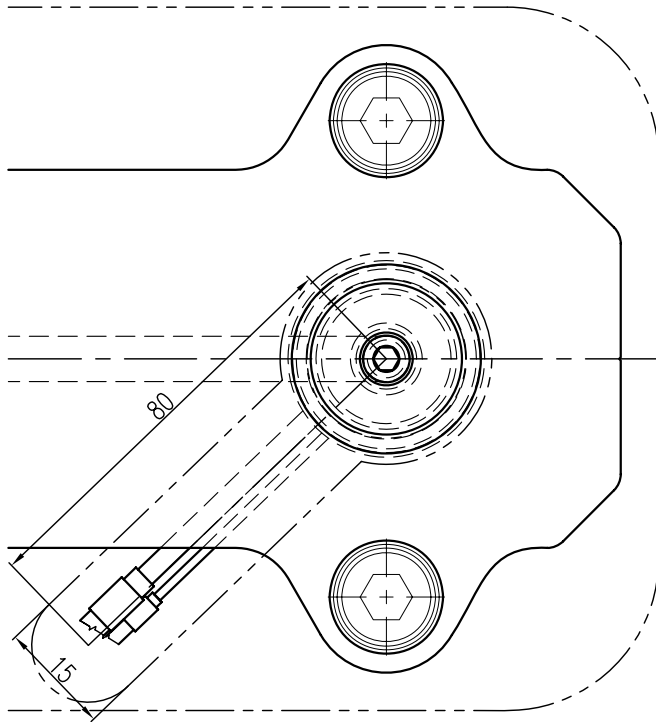
L	H	Gate ϕ	Land
40 - 100	35, 40, 45, 50, 55	0,8 - 1,2	4



BX

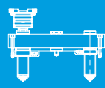
C-type torpedo with bushing (CTB)

- suited for crystalline materials
- simplifies mold manufacturing
- suited for color change



Related to the scope of size (when out of range, special design needed)

L	H	Gate Ø	Land
40 - 100	35, 40, 45, 50, 55	0,8 - 1,2	2

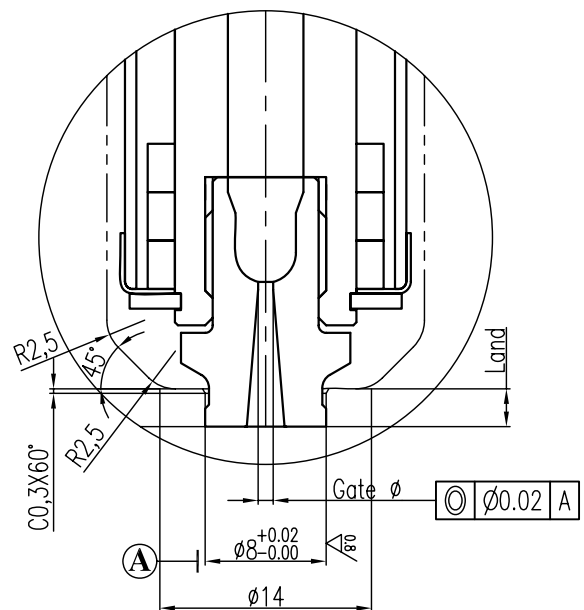
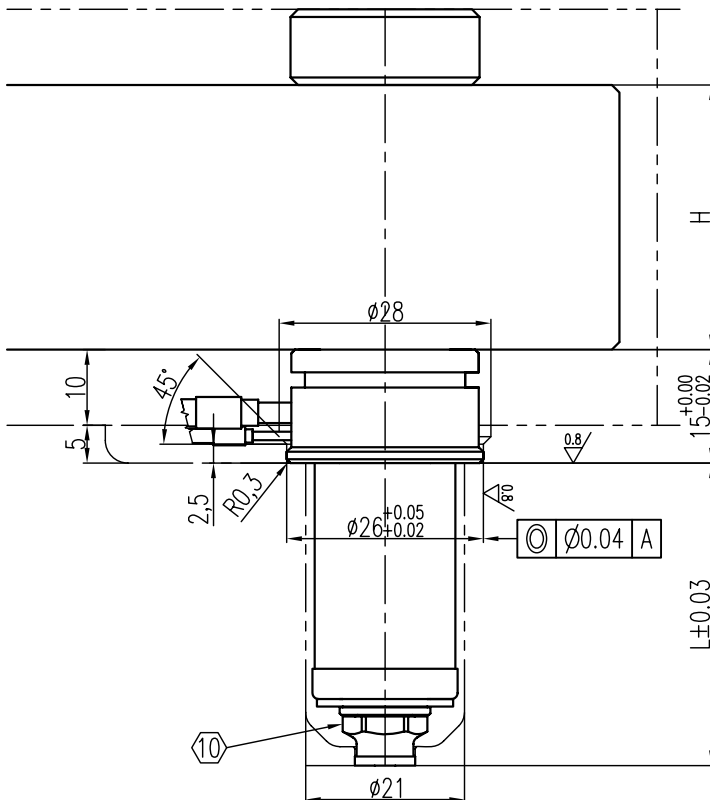
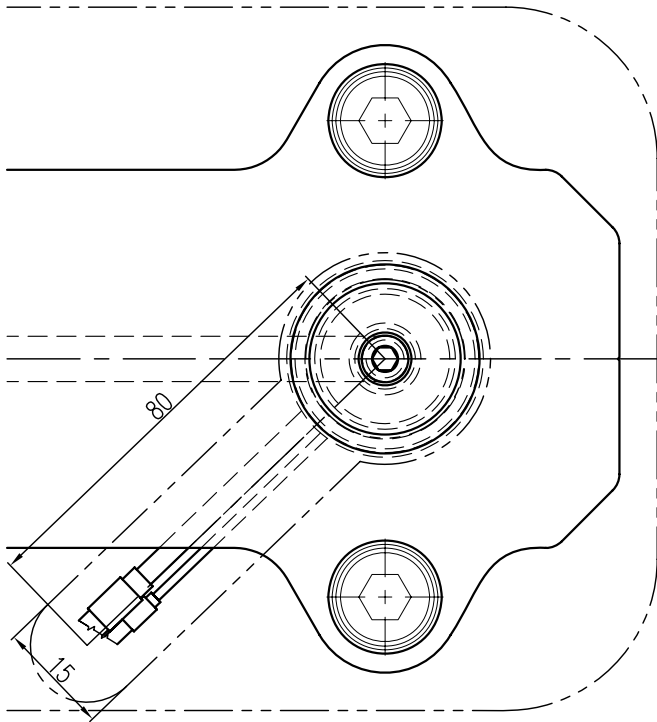


BX

Hot Sprue (HS)

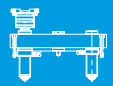


- suited for all materials
- gating into the sub runners
- nozzle profile adjustments by the moldmaker required



Related to the scope of size (when out of range, special design needed)

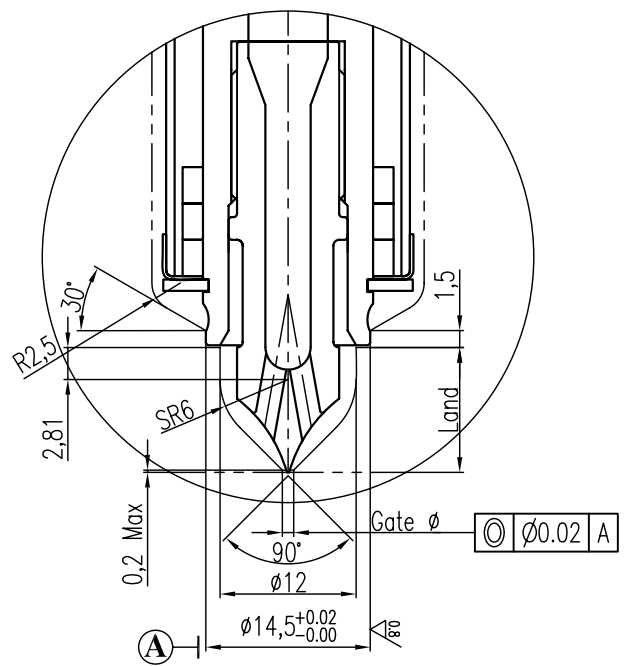
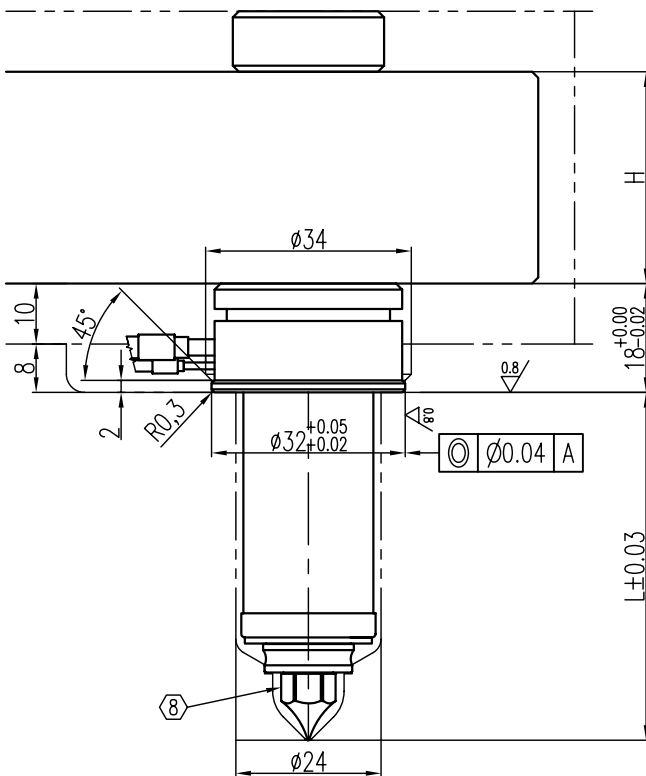
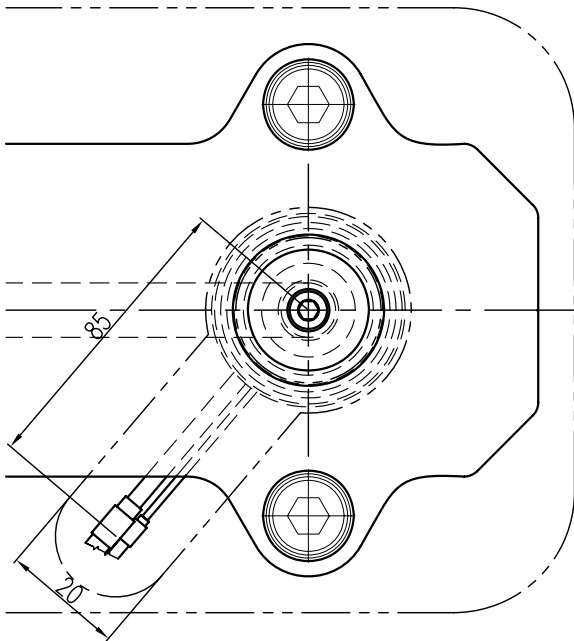
L	H	Gate Ø	Land
35 - 100	35, 40, 45, 50, 55	0,8 - 1,5	2,5



E-type torpedo (ET)

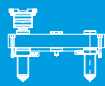
BX

- suited for amorphous and semi-crystalline materials
- not suited for color change



Related to the scope of size (when out of range, special design needed)

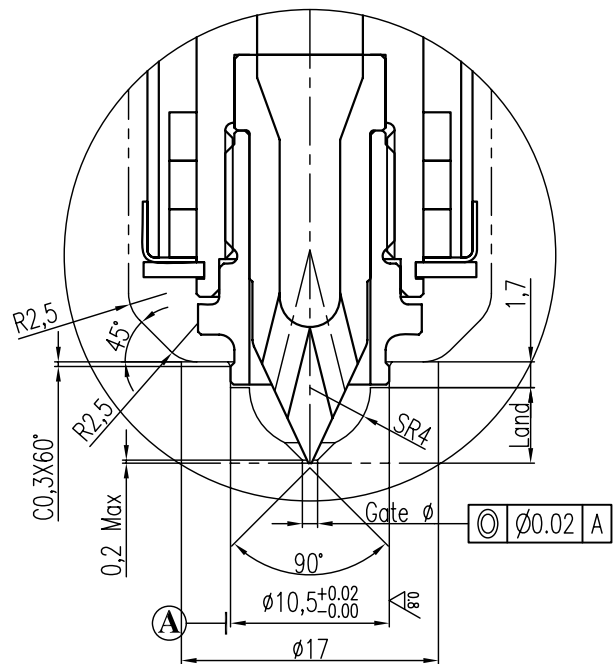
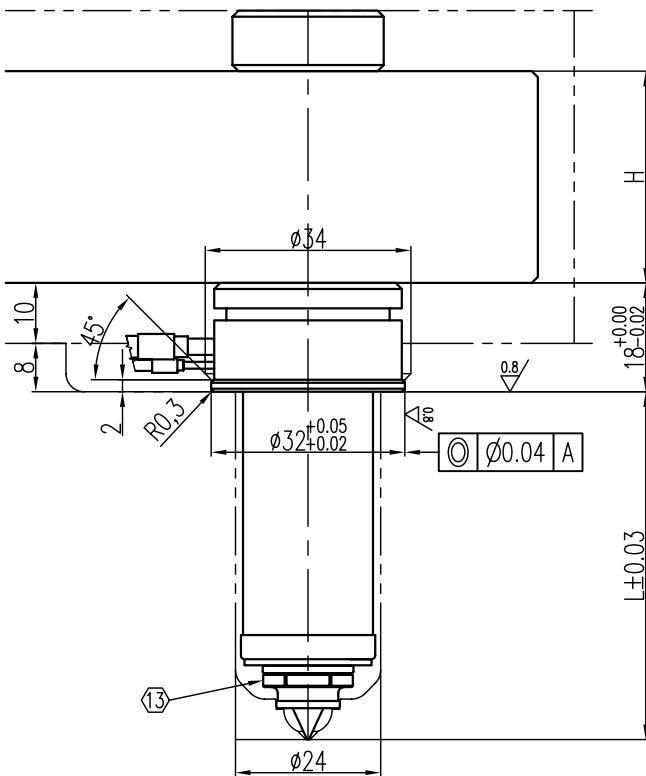
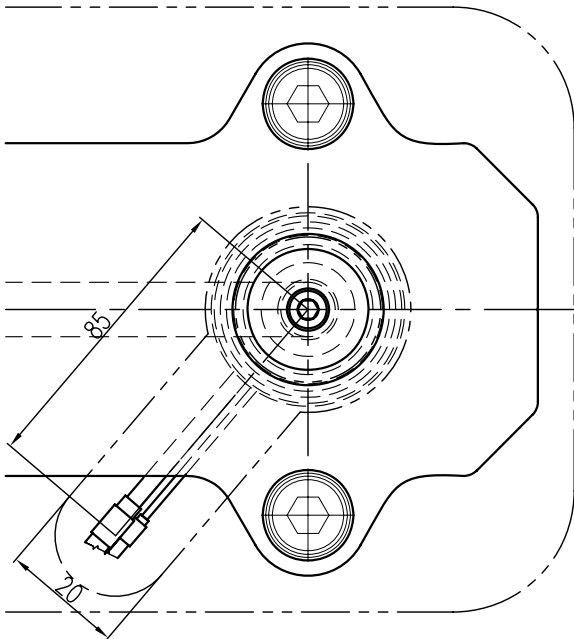
L	H	Gate Ø	Land
40 - 135	40, 45, 50, 55	0,8 - 1,5	11



BX

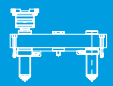
S-type torpedo (ST)

- suited for amorphous and semi-crystalline materials
- not suited for color change



Related to the scope of size (when out of range, special design needed)

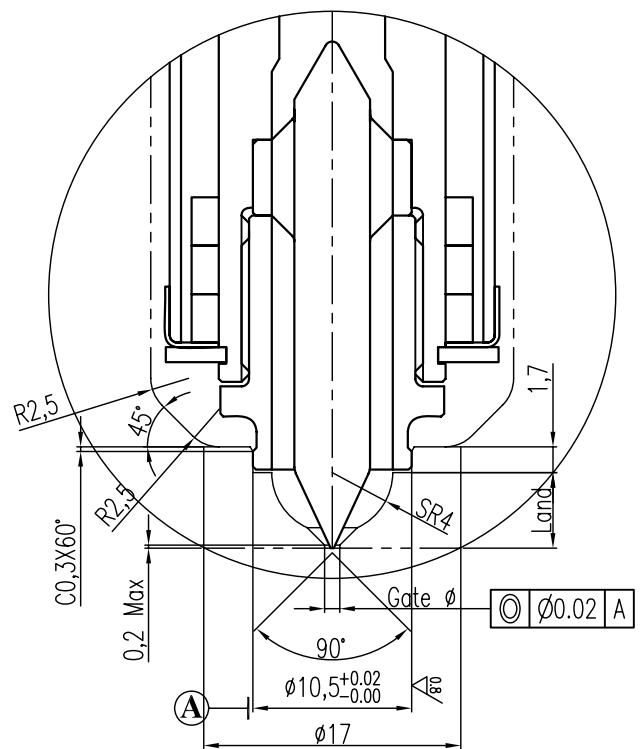
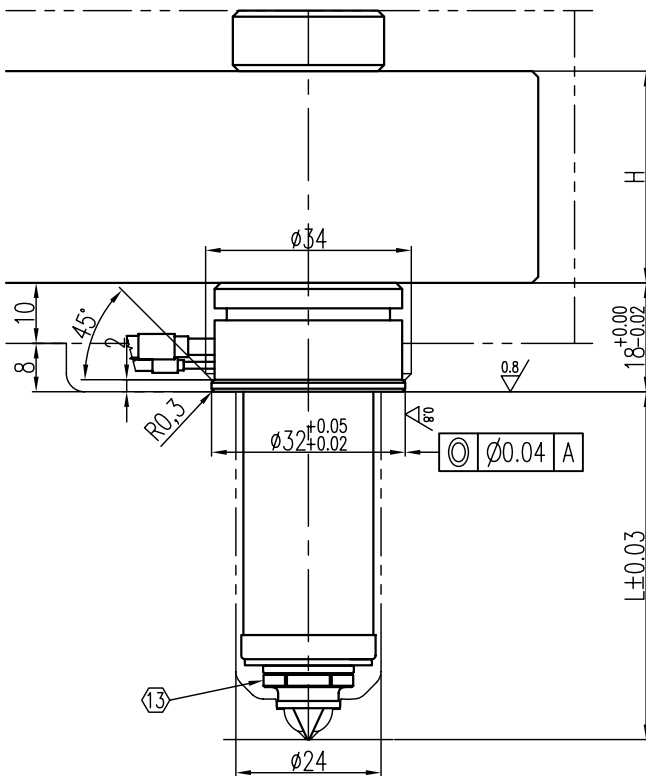
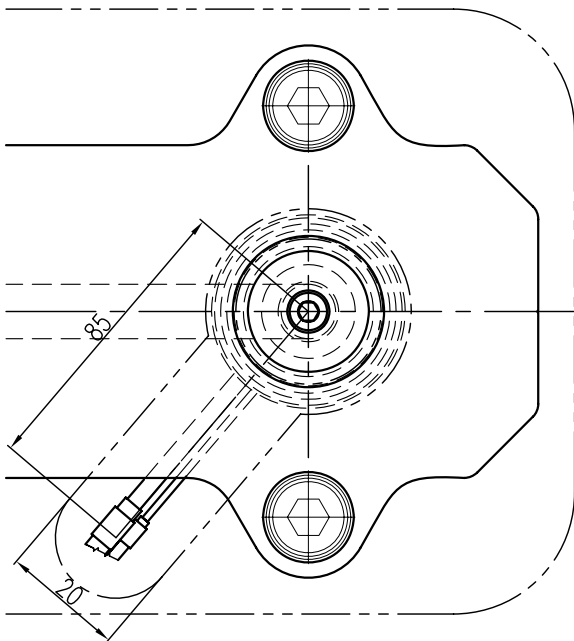
L	H	Gate Ø	Land
40 - 135	35, 40, 45, 50, 55	0,8 - 1,5	5



BX

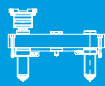
C-type torpedo (CT)

- suited for amorphous and semi-crystalline materials
- suited for color change



Related to the scope of size (when out of range, special design needed)

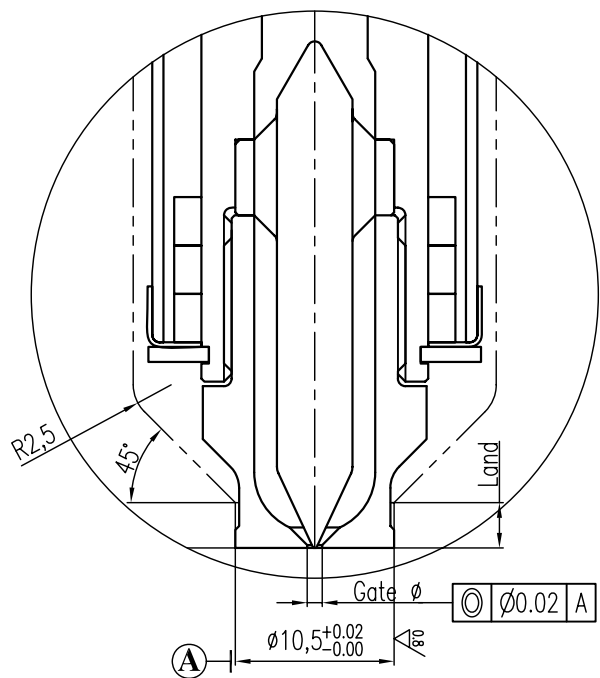
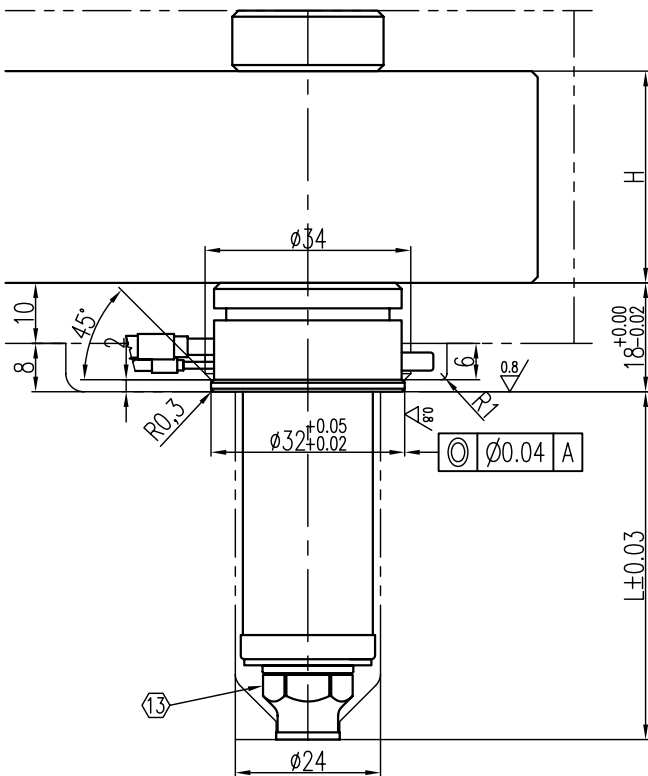
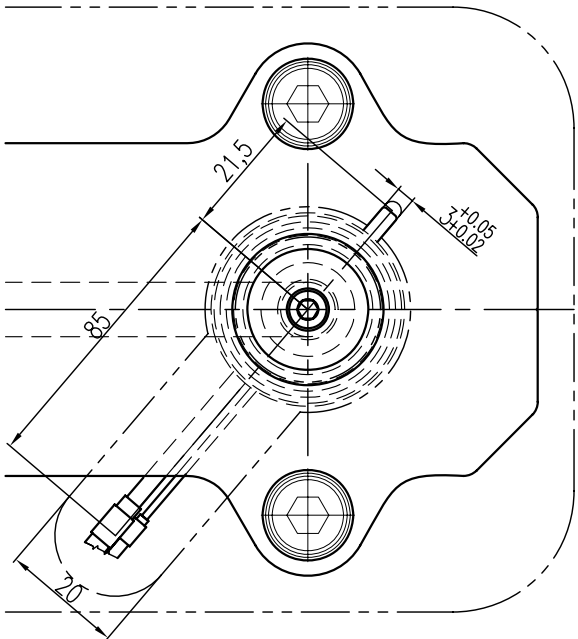
L	H	Gate Ø	Land
40 - 135	40, 45, 50, 55	0,8 - 1,5	5



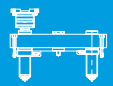
BX

C-type torpedo with bushing (CTB)

- suited for crystalline materials
- simplifies mold manufacturing
- suited for color change



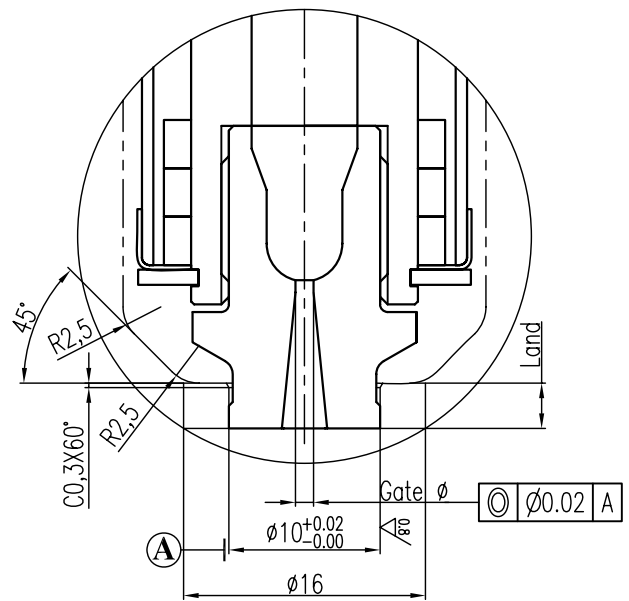
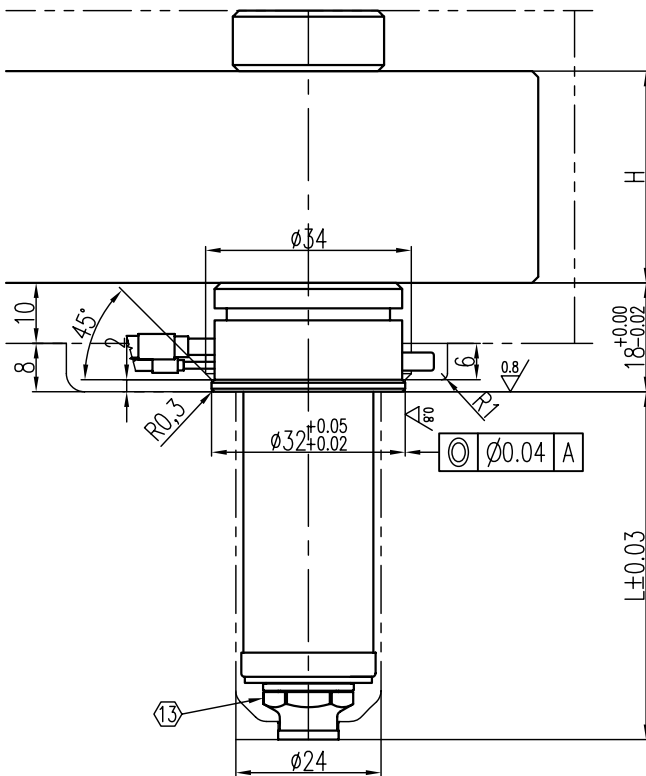
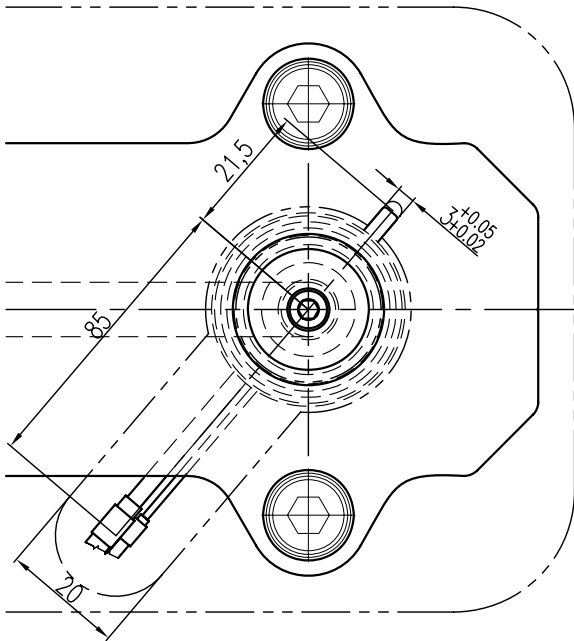
Related to the scope of size (when out of range, special design needed)			
L	H	Gate Ø	Land
40 - 135	40, 45, 50, 55	0,8 - 1,5	3



BX

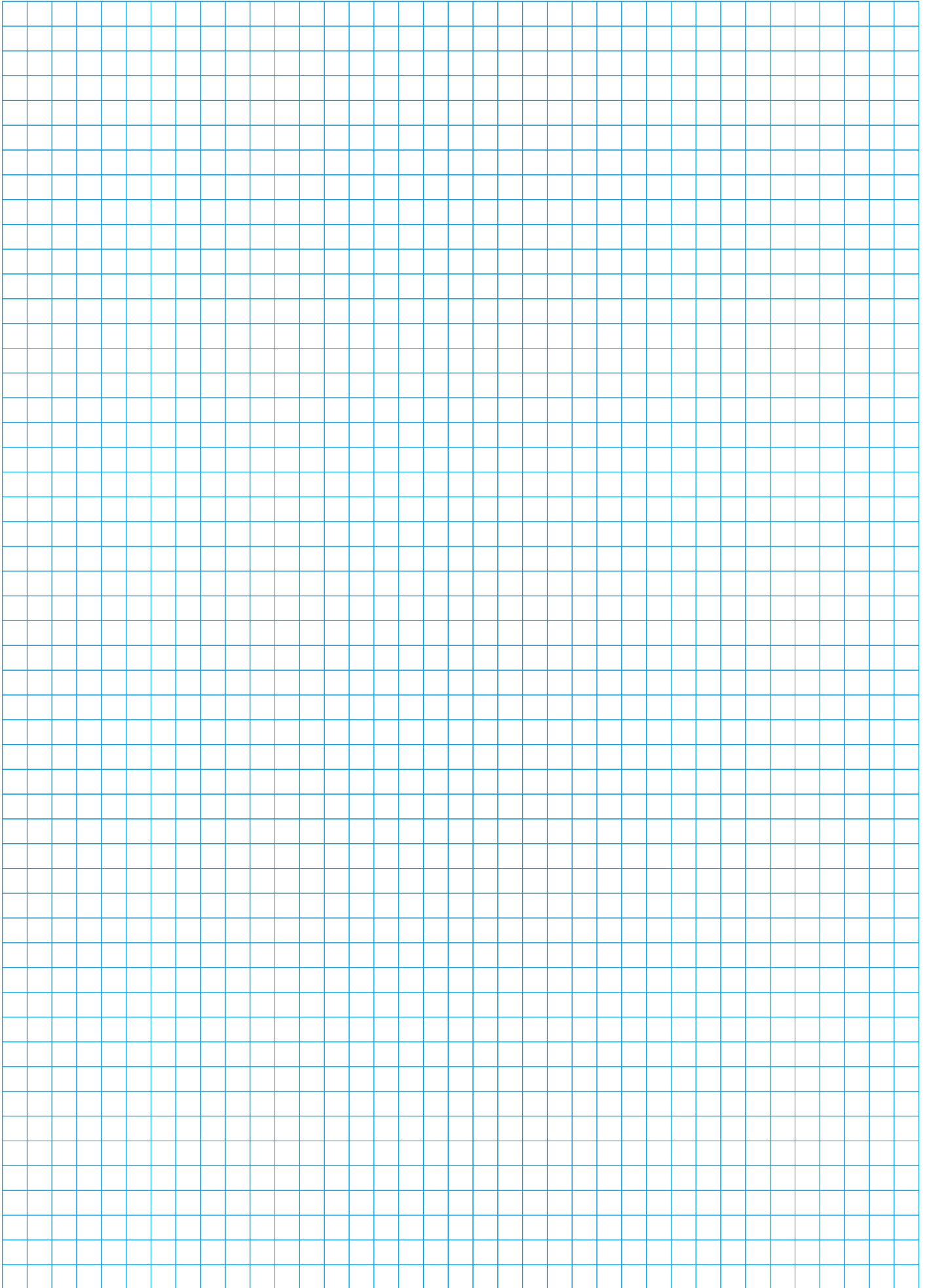
Hot Sprue (HS)

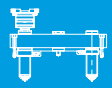
- suited for all materials
- gating into the sub runners
- nozzle profile adjustments by the moldmaker required



Related to the scope of size (when out of range, special design needed)

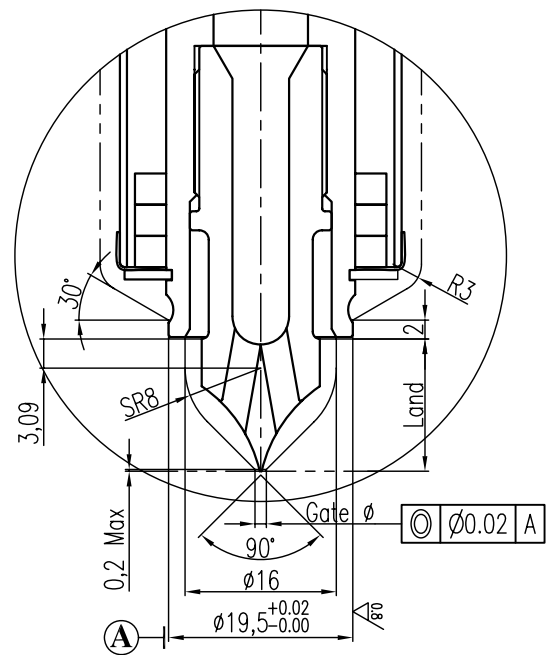
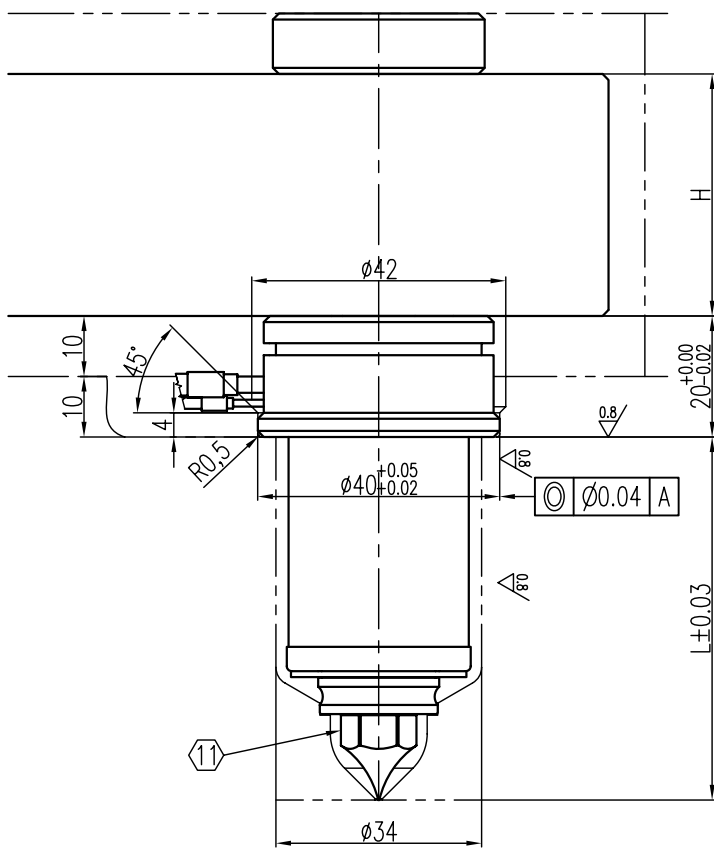
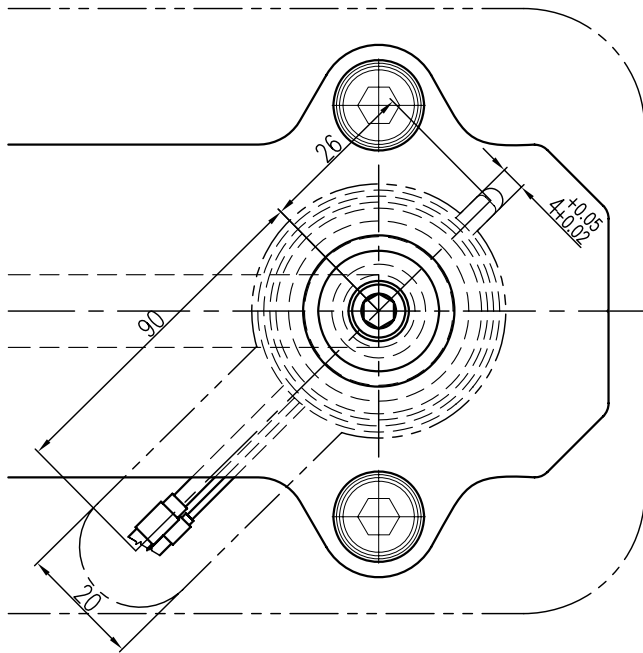
L	H	Gate Ø	Land
40 - 135	40, 45, 50, 55	0,8 - 1,5	3



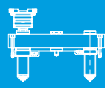


E-type torpedo (ET)

- suited for amorphous and semi-crystalline materials
- not suited for color change



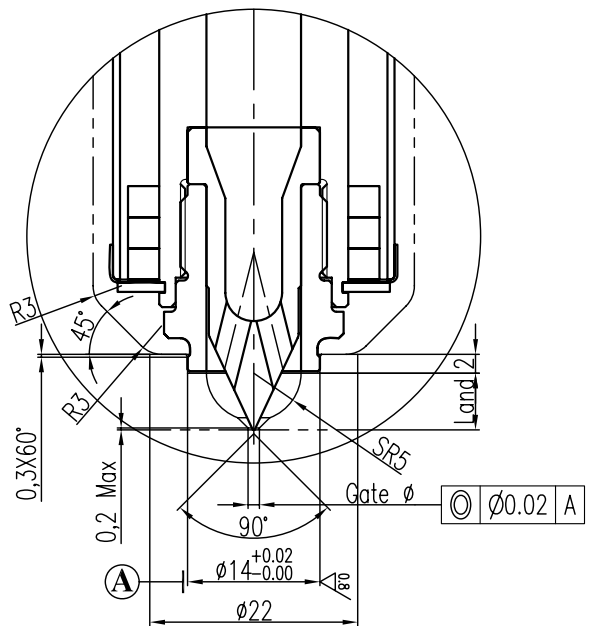
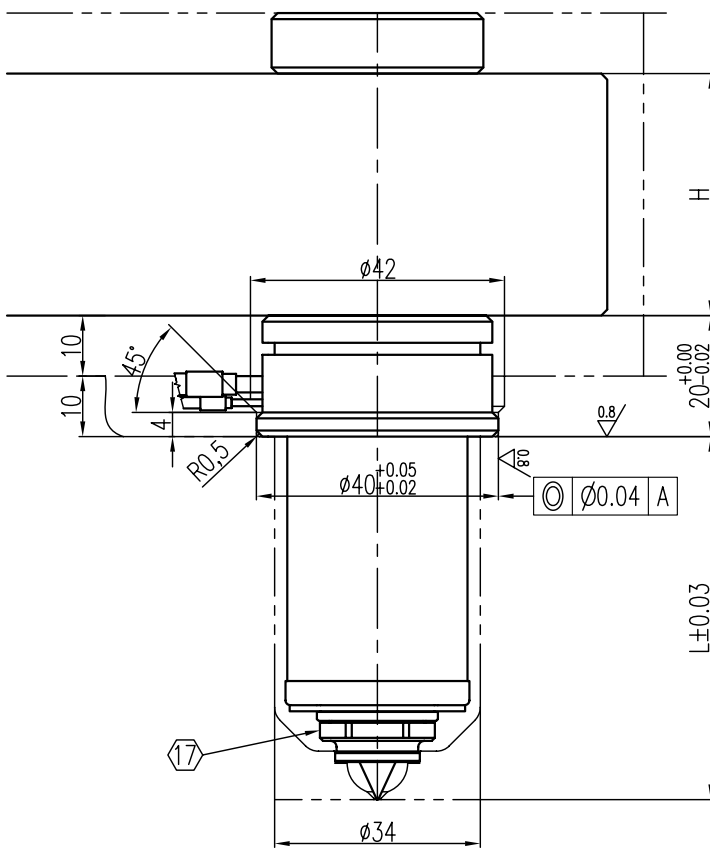
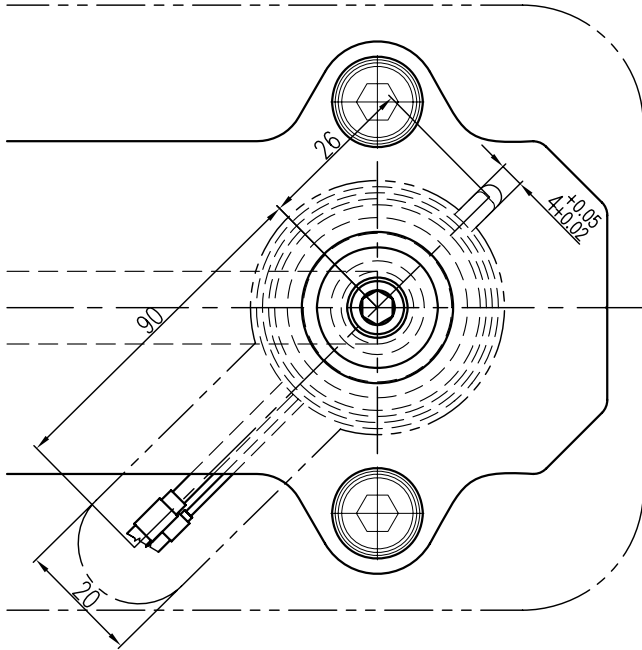
Related to the scope of size (when out of range, special design needed)			
L	H	Gate ϕ	Land
40 - 250	40, 45, 50, 55	1,0 - 2,0	14



BX

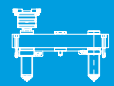
S-type torpedo (ST)

- suited for amorphous and semi-crystalline materials
- not suited for color change



Related to the scope of size (when out of range, special design needed)

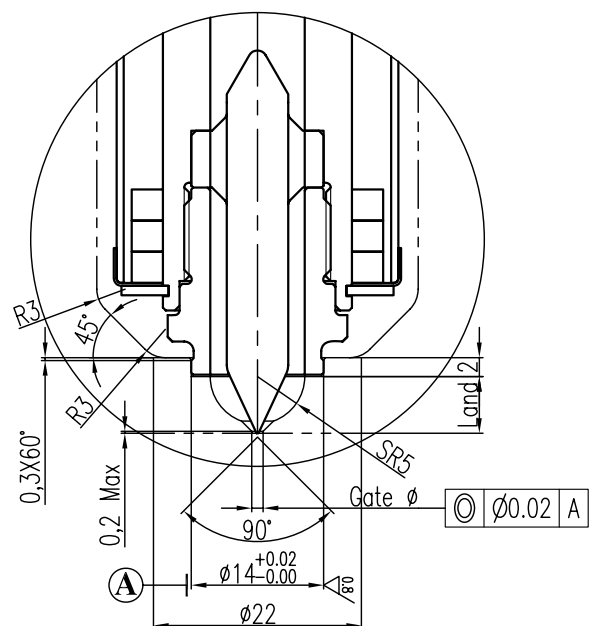
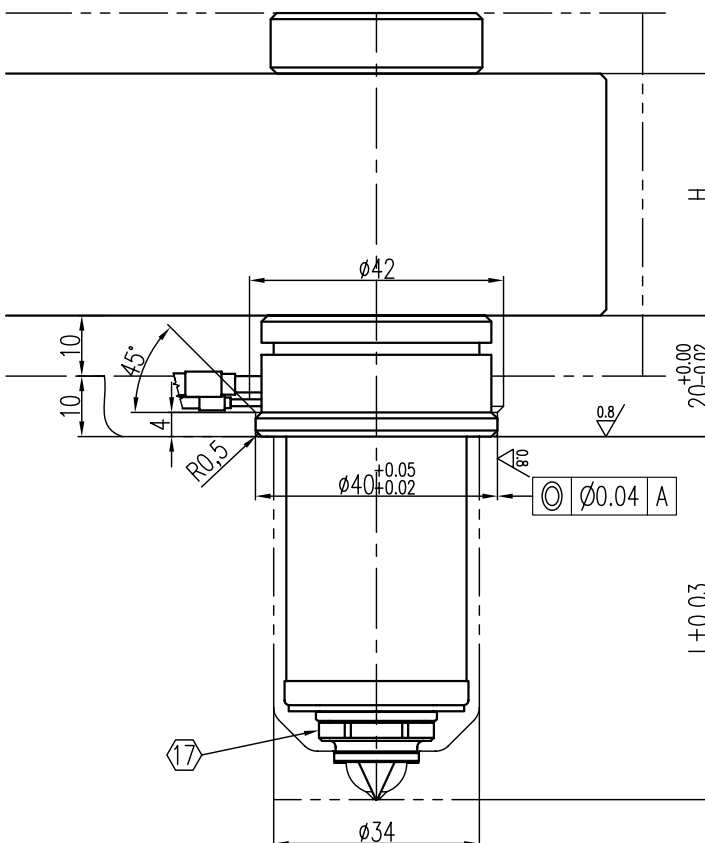
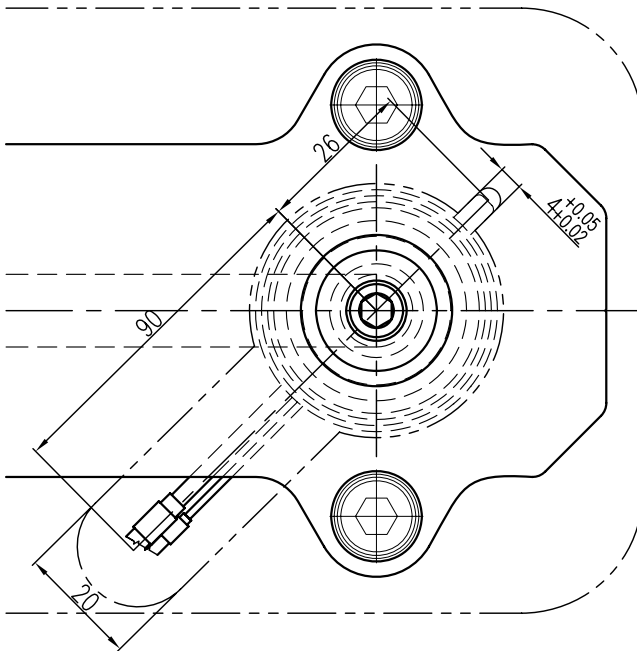
L	H	Gate Ø	Land
40 - 250	40, 45, 50, 55	1,0 - 2,0	6



BX

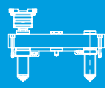
C-type torpedo (CT)

- suited for amorphous and semi-crystalline materials
- suited for color change



Related to the scope of size (when out of range, special design needed)

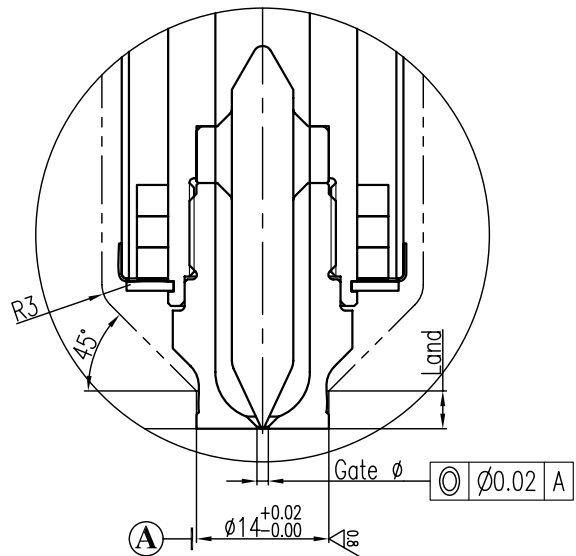
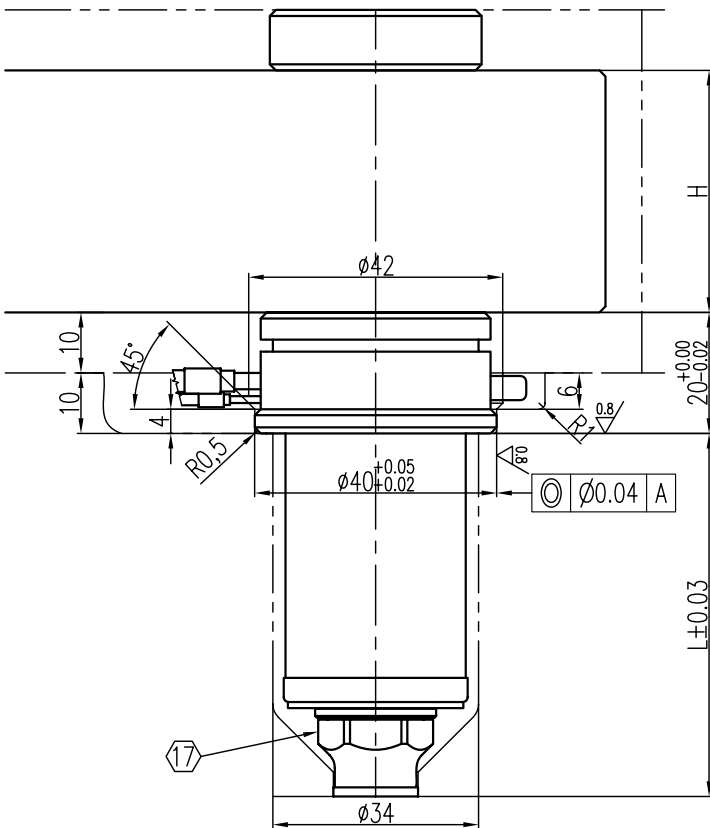
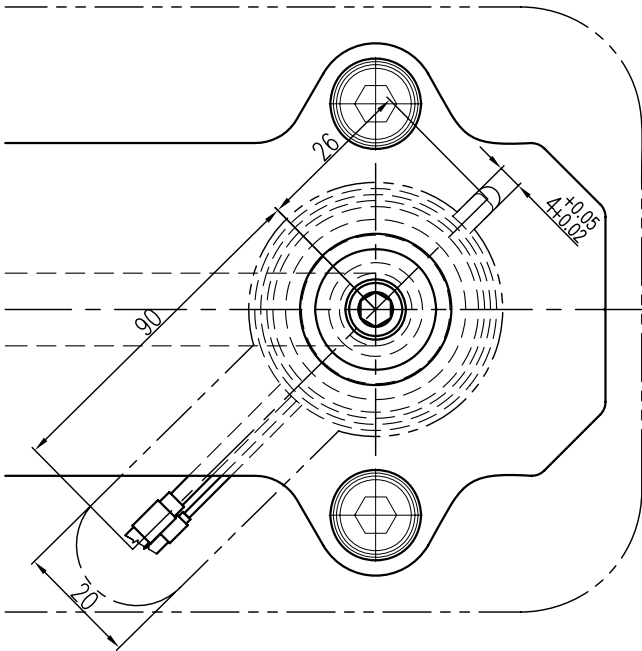
L	H	Gate Ø	Land
40 - 250	40, 45, 50, 55	1,0 - 2,0	6



BX

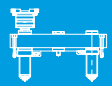
C-type torpedo with bushing (CTB)

- suited for crystalline materials
- simplifies mold manufacturing
- suited for color change



Related to the scope of size (when out of range, special design needed)

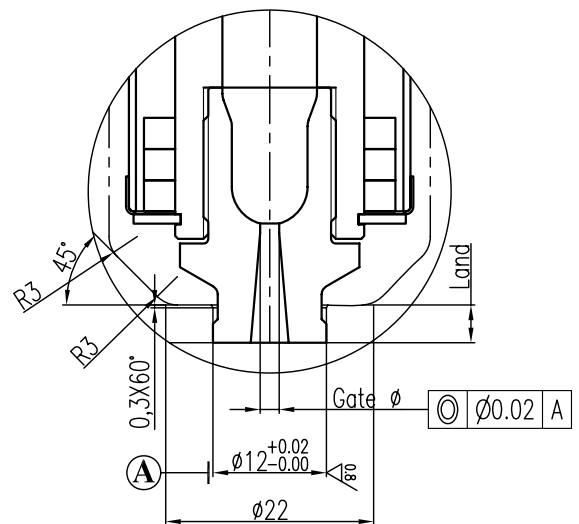
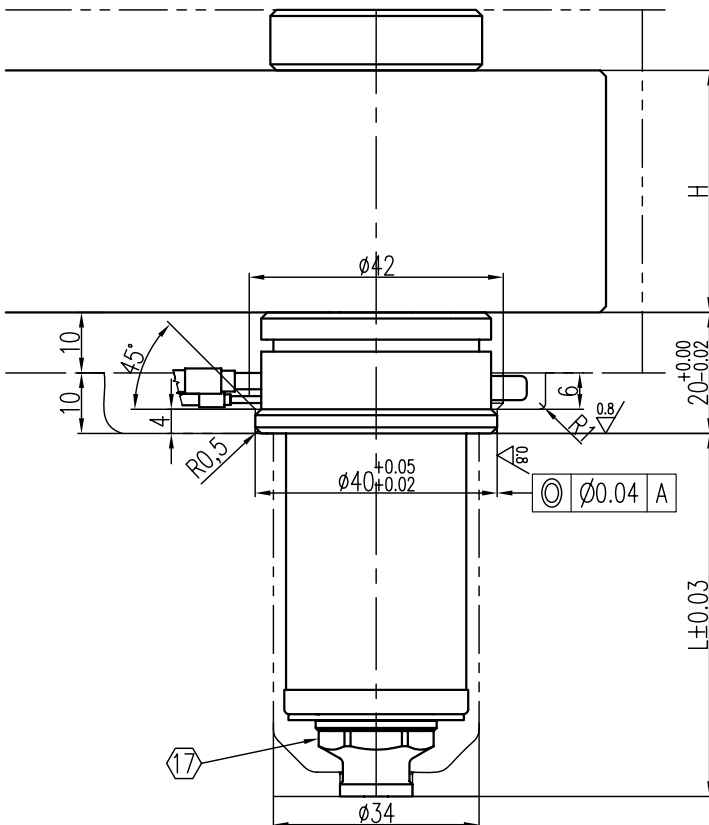
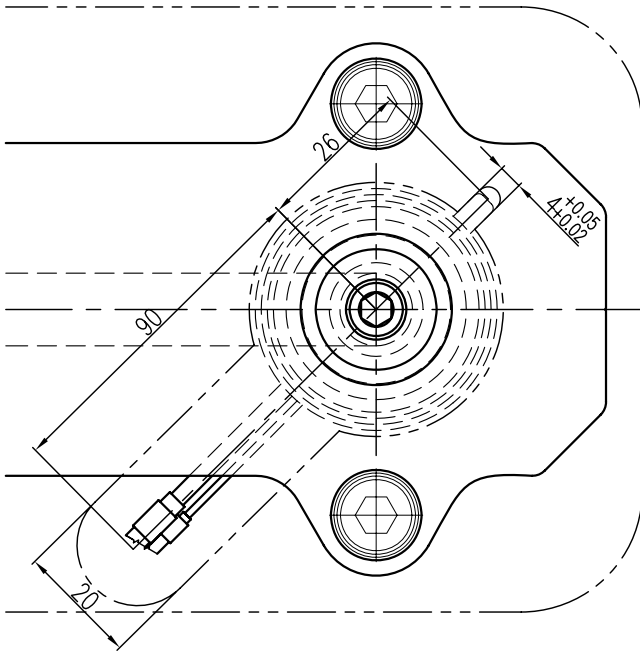
L	H	Gate Ø	Land
40 - 250	40, 45, 50, 55	1,0 - 2,0	4



BX

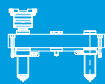
Hot Sprue (HS)

- suited for all materials
- gating into the sub runners
- nozzle profile adjustments by the moldmaker required



Related to the scope of size (when out of range, special design needed)

L	H	Gate Ø	Land
40 - 250	40, 45, 50, 55	1,0 - 2,5	4

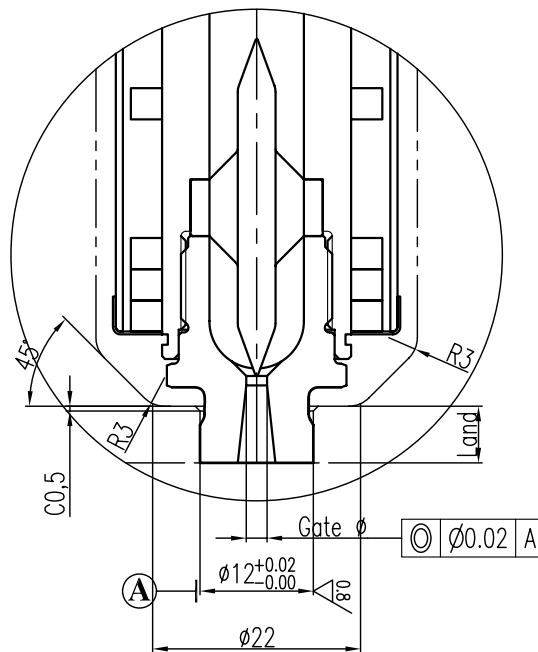
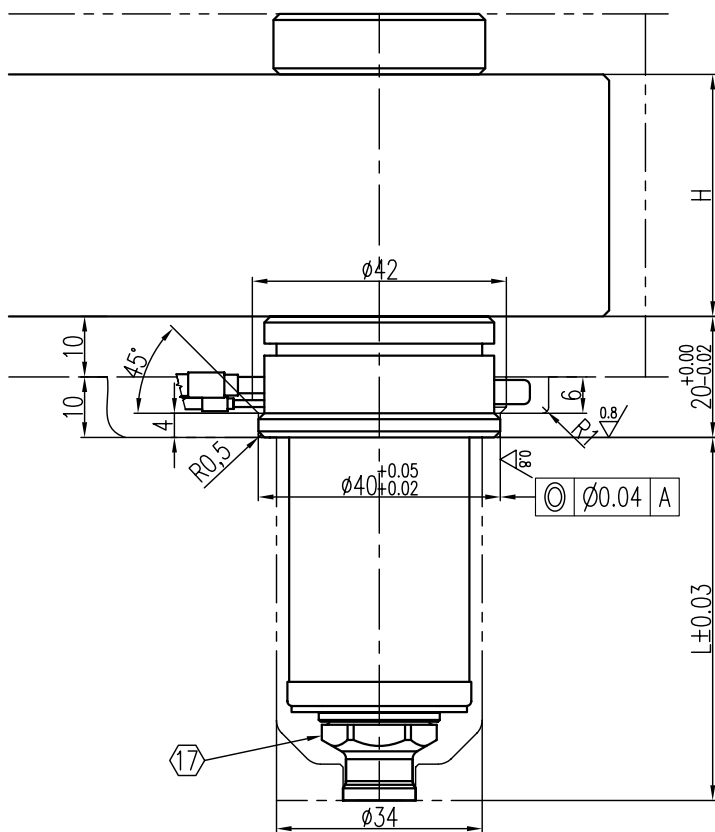
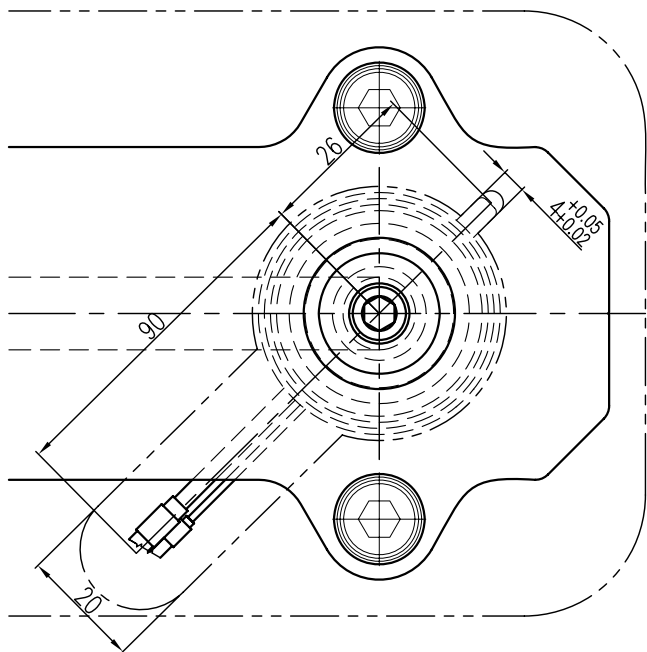


BX

Torpedo Bushing (TB)

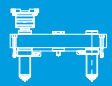


- designed for high processing temperature engineering materials
- gating into the sub runners
- nozzle profile adjustments by the moldmaker required



Related to the scope of size (when out of range, special design needed)

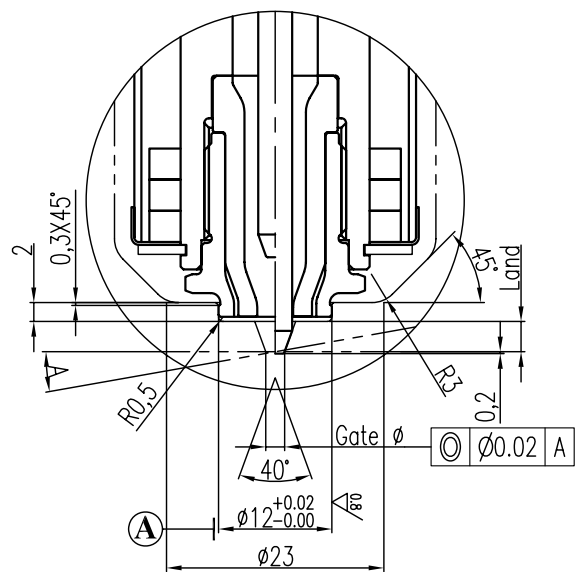
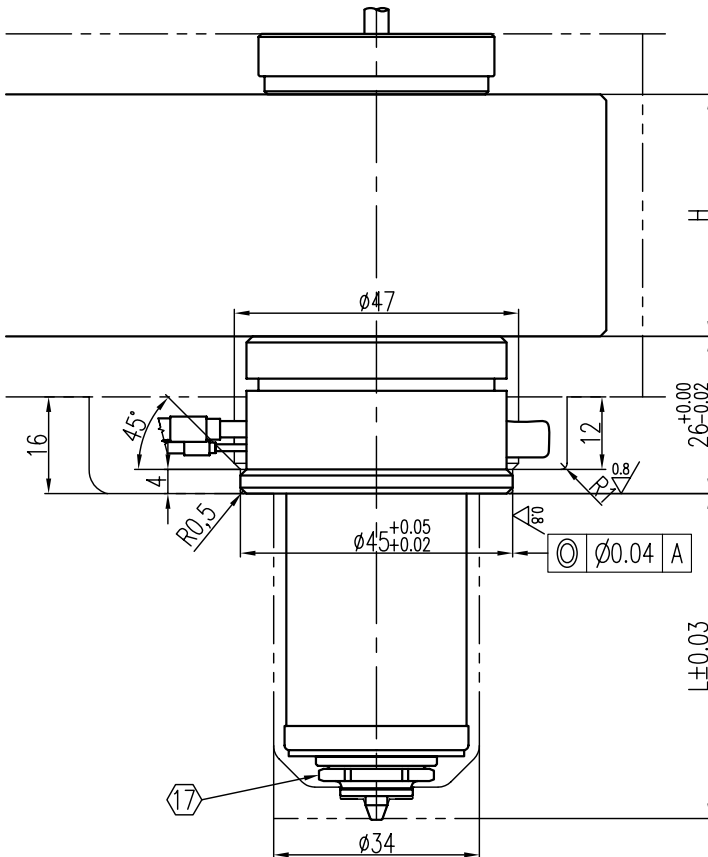
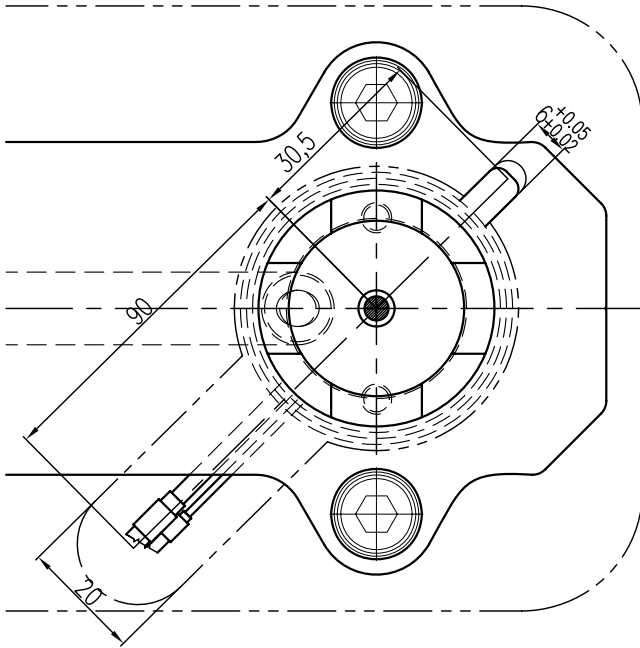
L	H	Gate ϕ	Land
40 - 250	40, 45, 50, 55	1,5 - 3,0	6,0



Bi-Met C-type valve (CV)

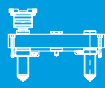
BX

- suited for all materials
- use PE40 or PE50 pneumatic cylinder or HE20 hydraulic cylinder
- can be used when $A < 10^\circ$



Related to the scope of size (when out of range, special design needed)

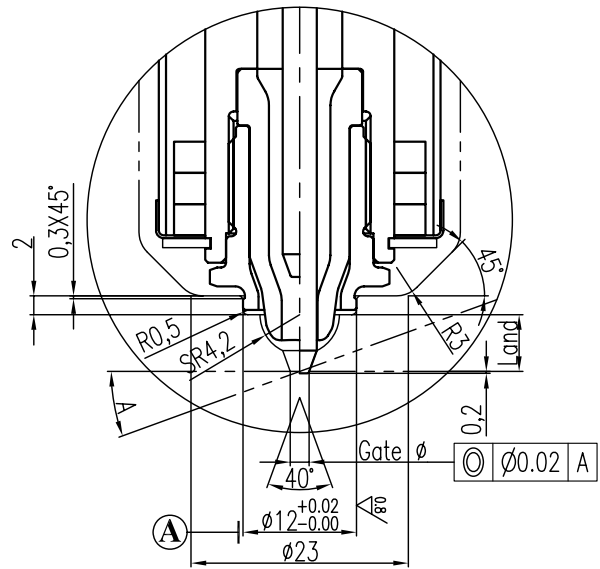
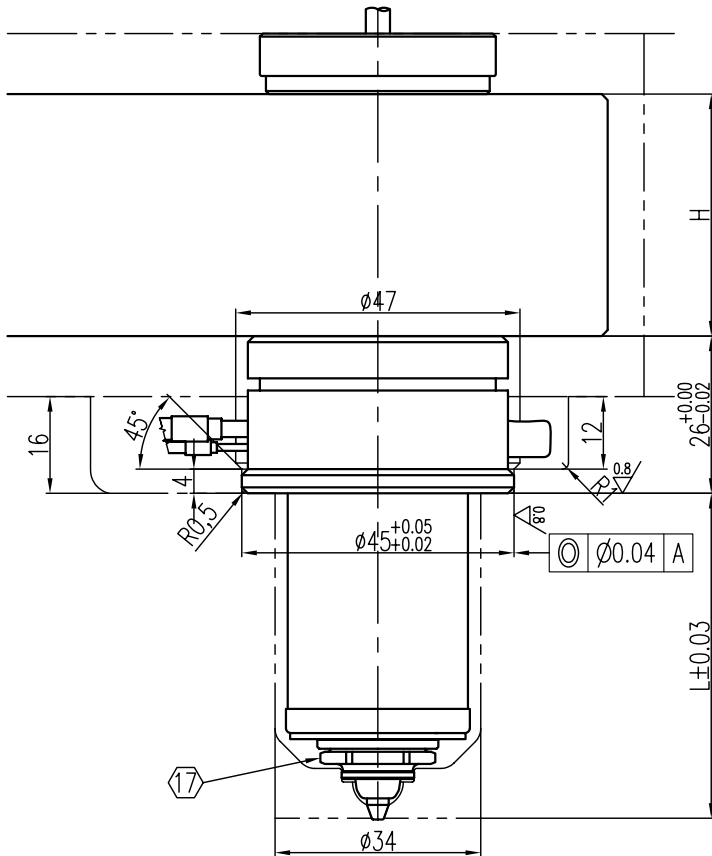
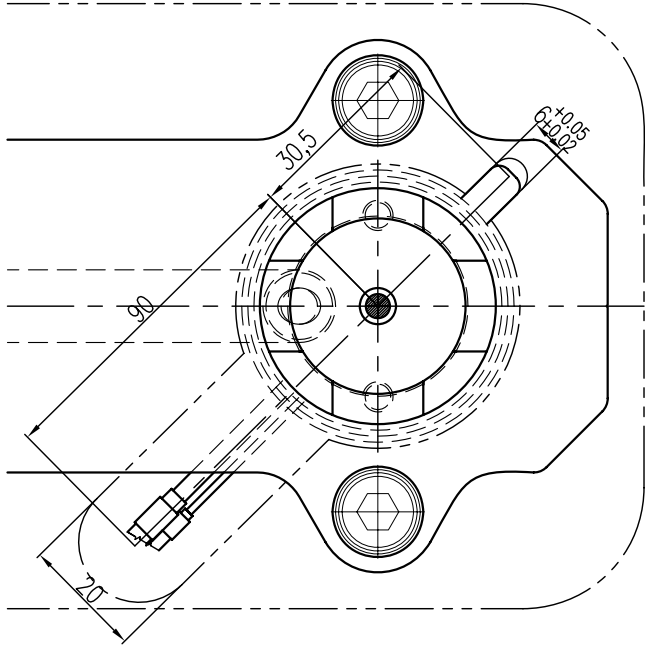
L	H	A	Gate Ø	Land
40 - 250	40, 45, 50, 55	$0^\circ - 10^\circ$	1,0 - 2,0	4



BX

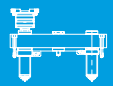
Bi-Met extended C-type valve (CVE)

- suited for all materials
- use PE40 or PE50 pneumatic cylinder or HE20 hydraulic cylinder
- can be used when $A < 20^\circ$



Related to the scope of size (when out of range, special design needed)

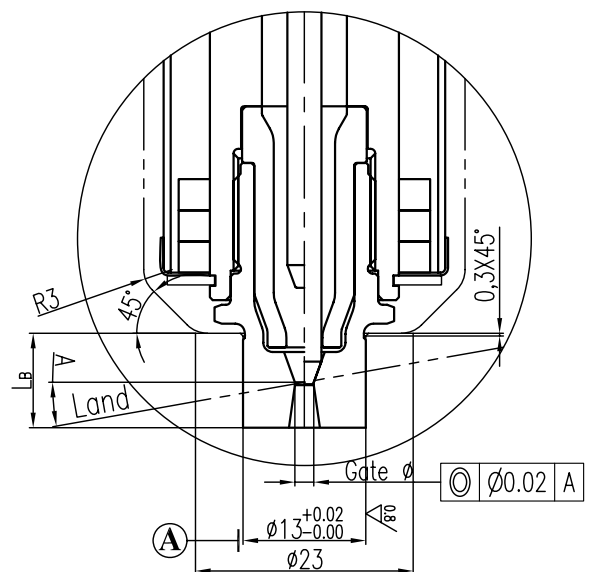
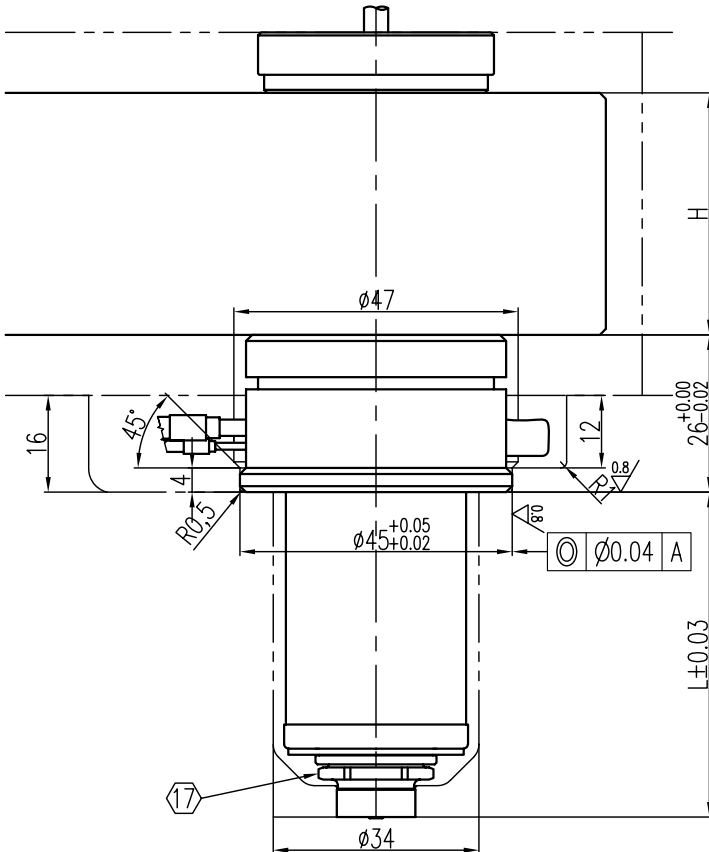
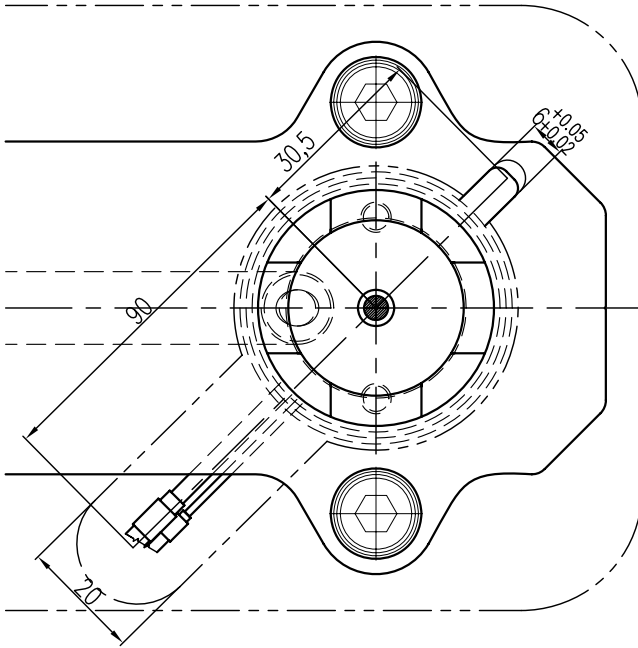
L	H	A	Gate ϕ	Land
40 - 160	40, 45, 50, 55	$0^\circ - 10^\circ$	1,5 - 2,0	6
		$10^\circ - 20^\circ$	1,5 - 2,0	6,4



Bi-Met C-type valve with bushing (CVB)

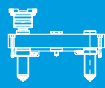
BX

- suited for all materials
- use PE40 or PE50 pneumatic cylinder or HE20 hydraulic cylinder
- can be used when $A < 10^\circ$
- simplifies mold manufacturing



Related to the scope of size (when out of range, special design needed)

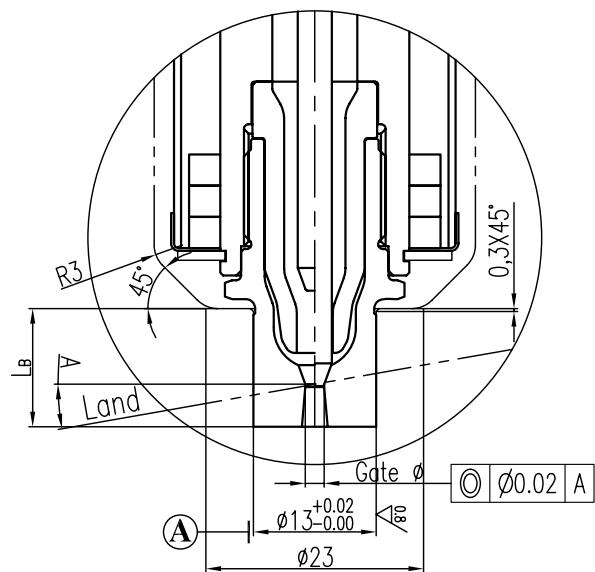
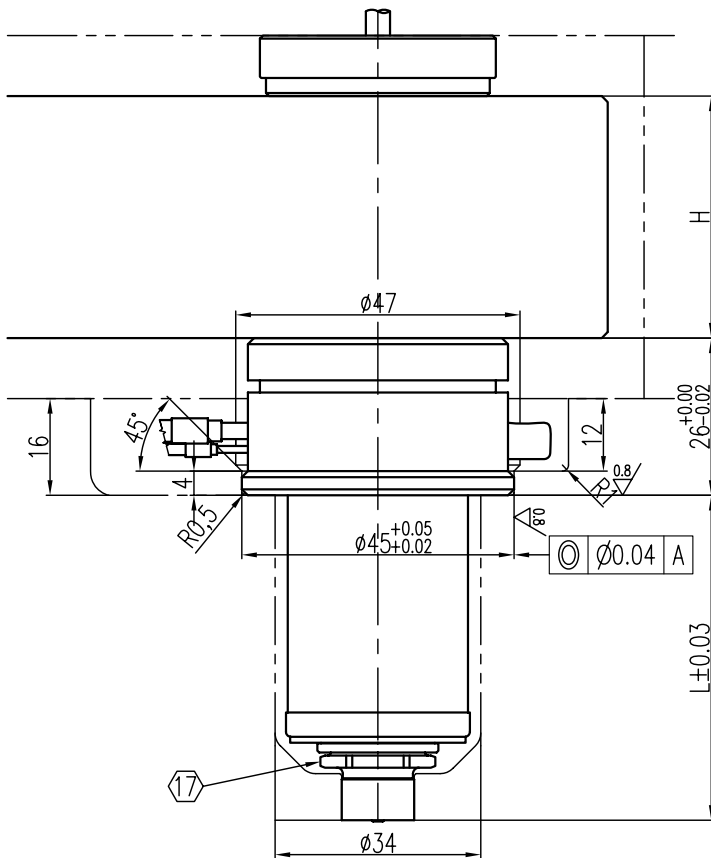
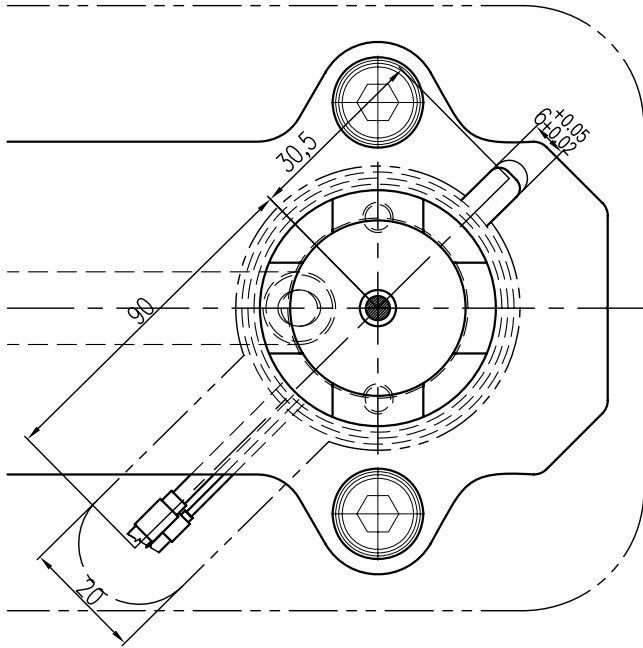
L	H	A	Gate Ø	Land
40 - 160	40, 45, 50, 55	-	1,5 - 2,0	5,2
		0° - 10°	1,5 - 2,0	10



BX

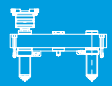
Bi-Met extended C-valve with bushing (CVEB)

- suited for all materials
- use PE40 or PE50 pneumatic cylinder or HE20 hydraulic cylinder
- can be used when $A < 20^\circ$
- simplifies mold manufacturing



Related to the scope of size (when out of range, special design needed)

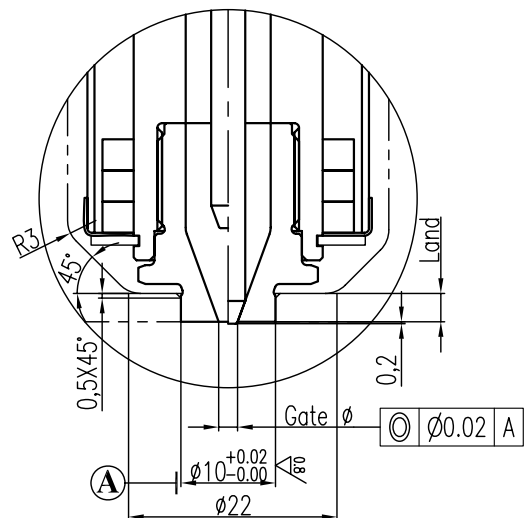
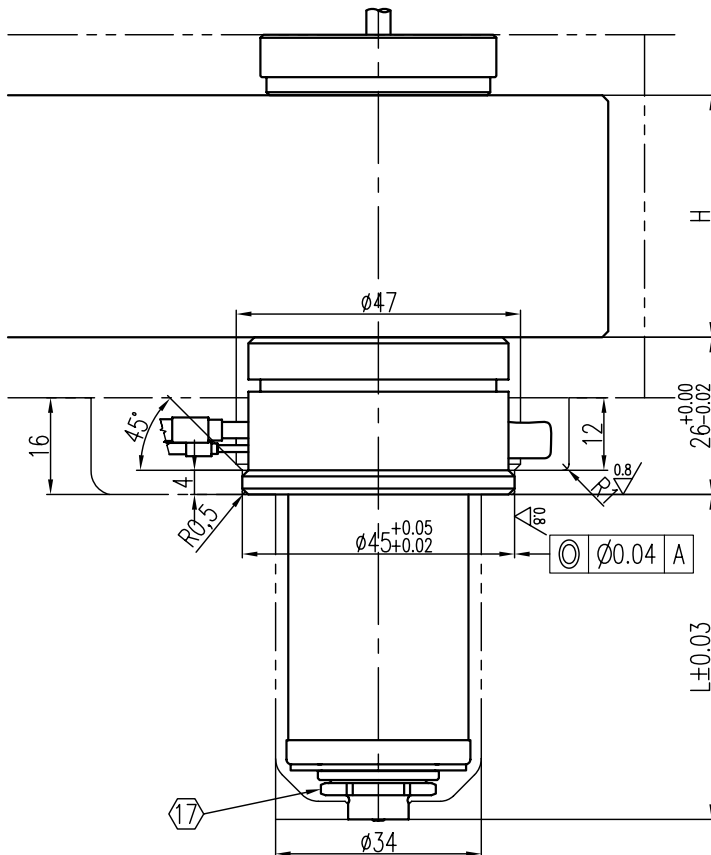
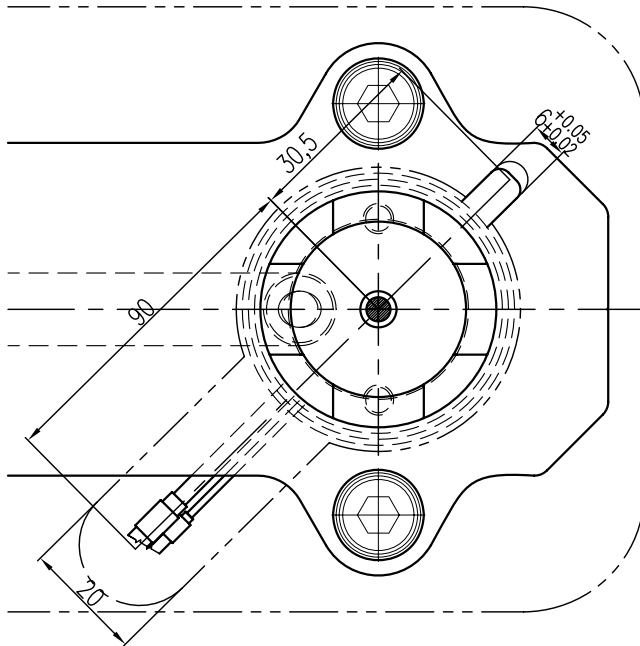
L	H	A	Gate Ø	Land
40 - 160	40, 45, 50, 55	-	1,5 - 2,0	5,2
		0° - 20°	1,5 - 2,0	12,5



BX

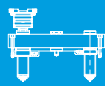
E-type valve (EV)

- suited for crystalline materials
- use PE40 or PE50 pneumatic cylinder or HE20 hydraulic cylinder
- simplifies mold manufacturing



Related to the scope of size (when out of range, special design needed)

L	H	Gate Ø	Land
40 - 160	40, 45, 50, 55	1,5	3,0
		2,0	3,0

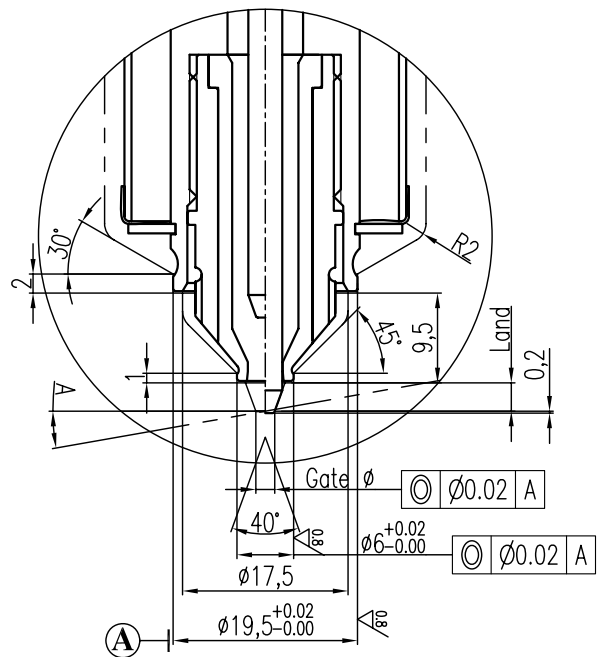
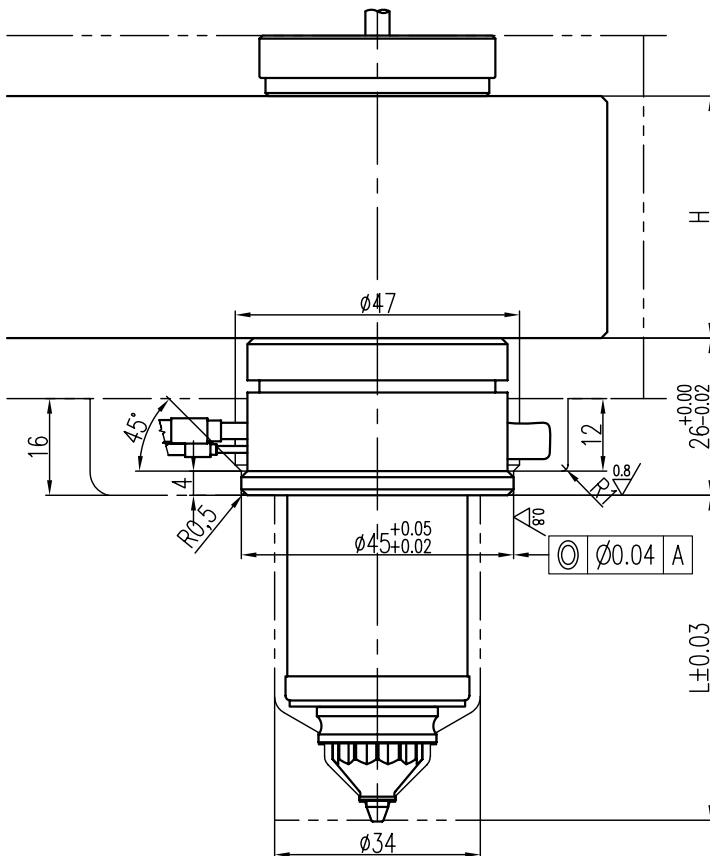
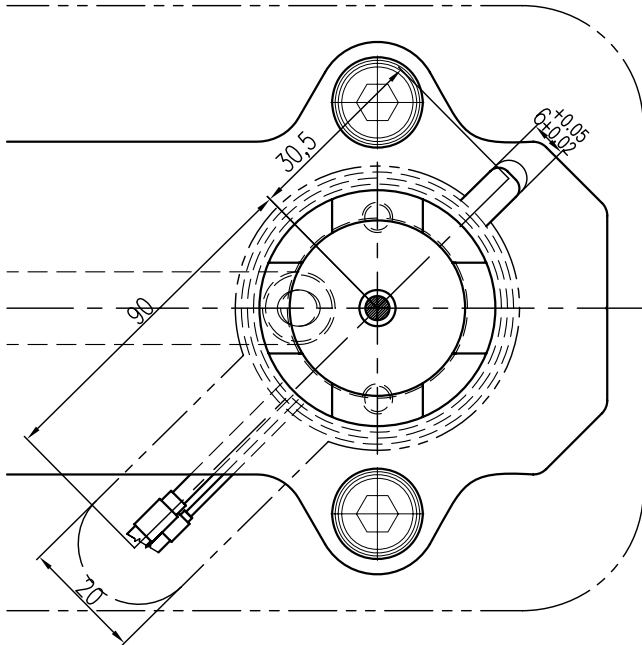


BX

Bi-Metal valve (WV)

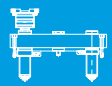


- suited for lower processing temperatures of amorphous and semi-crystalline materials
- use PE40 or PE50 pneumatic cylinder or HE20 hydraulic cylinder
- can be used when $A < 10^\circ$
- especially designed for high friction material



Related to the scope of size (when out of range, special design needed)

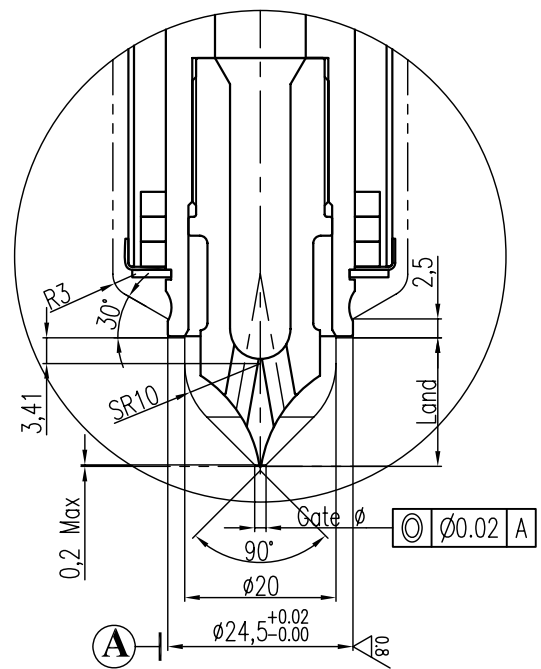
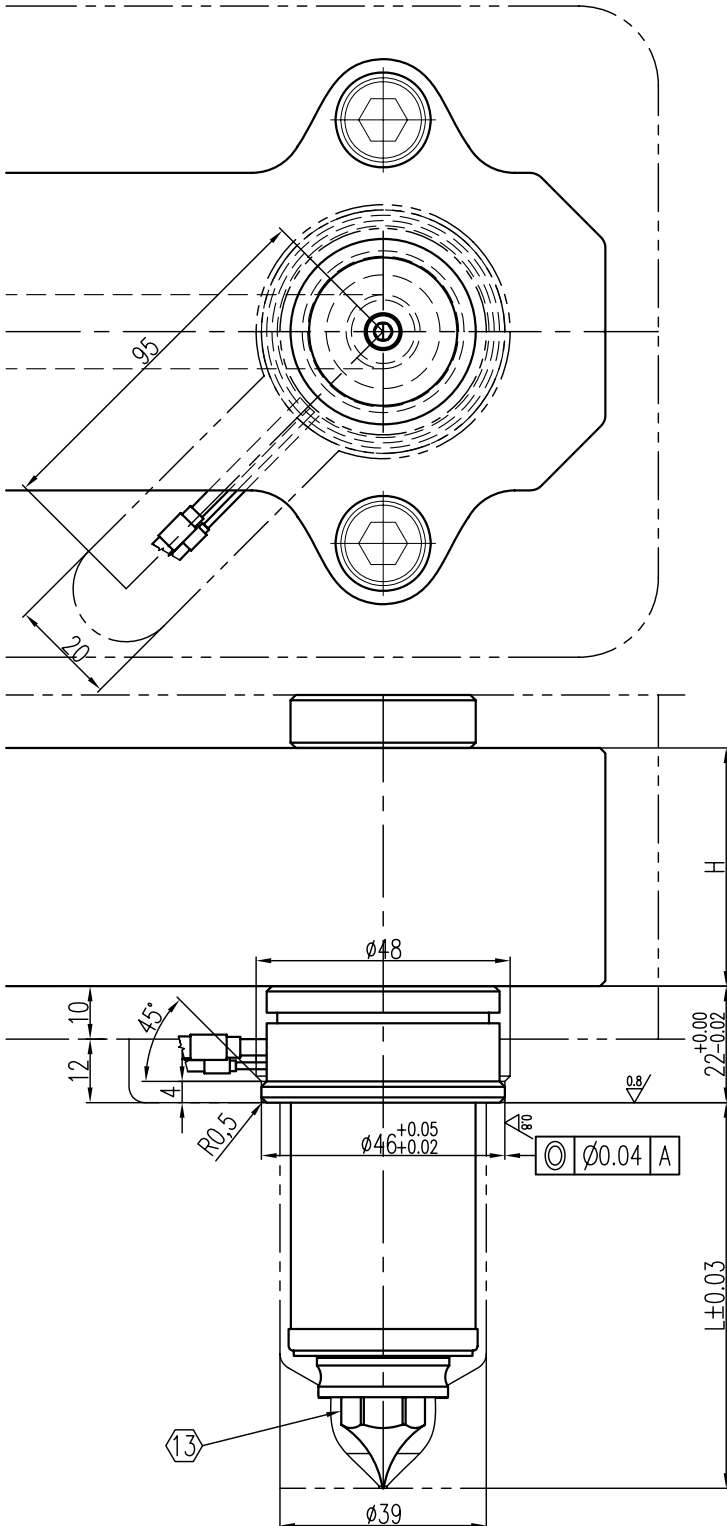
L	H	A	Gate Ø	Land
40 - 160	40, 45, 50, 55	0° - 10°	1,5	3,2
			2,0	3,2



BX

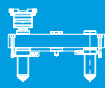
E-type torpedo (ET)

- suited for amorphous and semi-crystalline materials
- not suited for color change



Related to the scope of size (when out of range, special design needed)

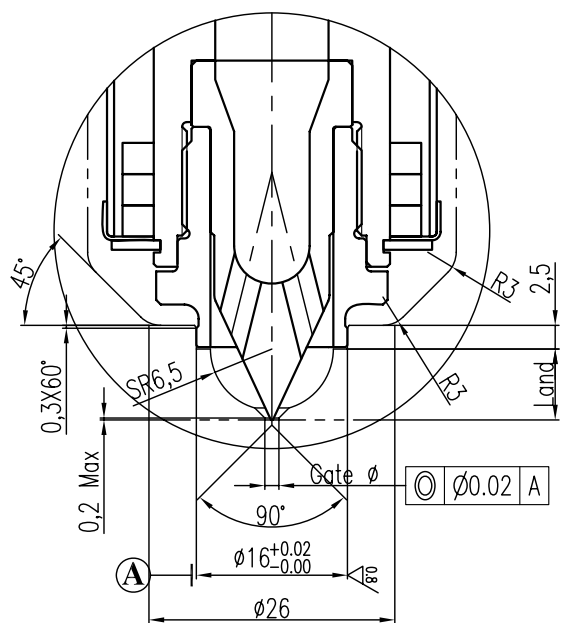
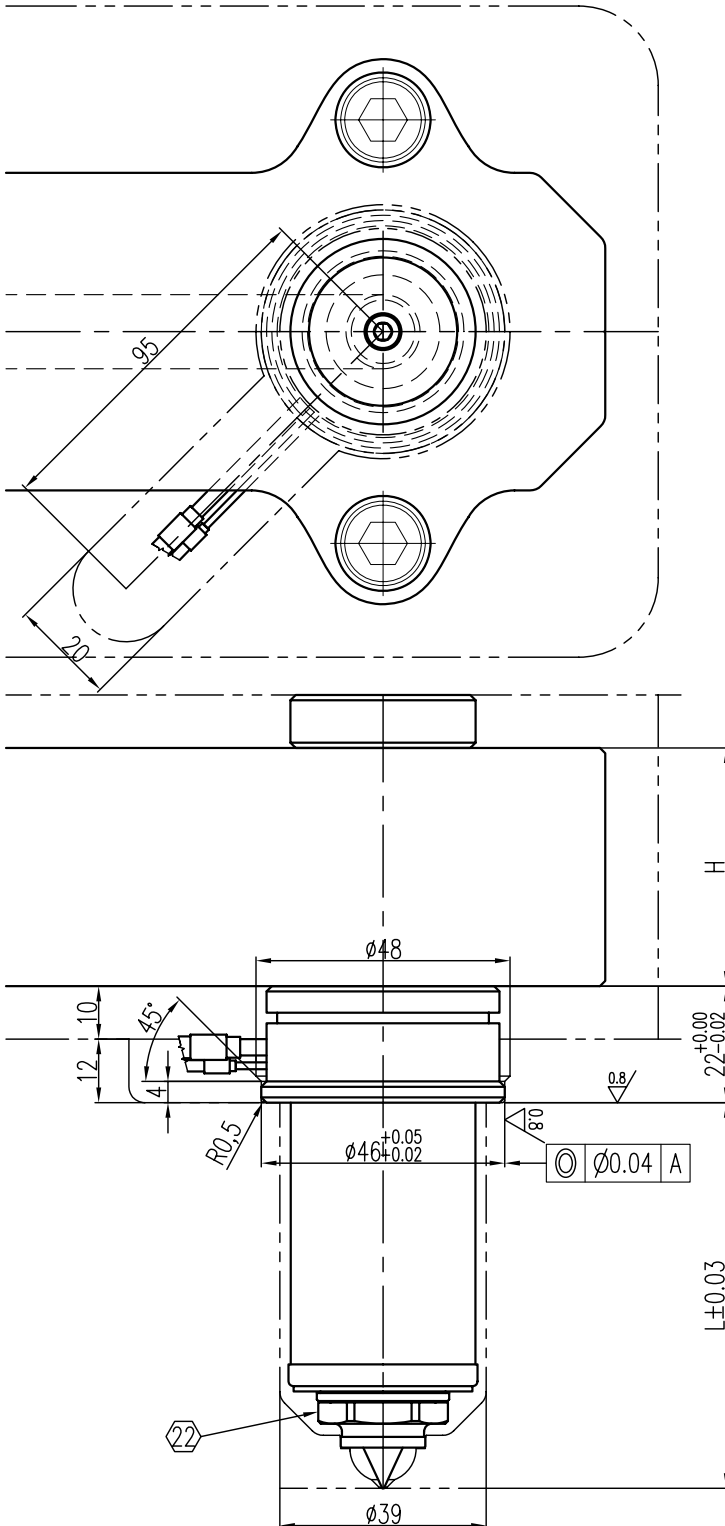
L	H	Gate ϕ	Land
50 - 350	45, 50, 55, 66	1,2 - 2,5	14



BX

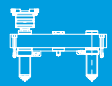
S-type torpedo (ST)

- suited for amorphous and semi-crystalline materials
- not suited for color change



Related to the scope of size (when out of range, special design needed)

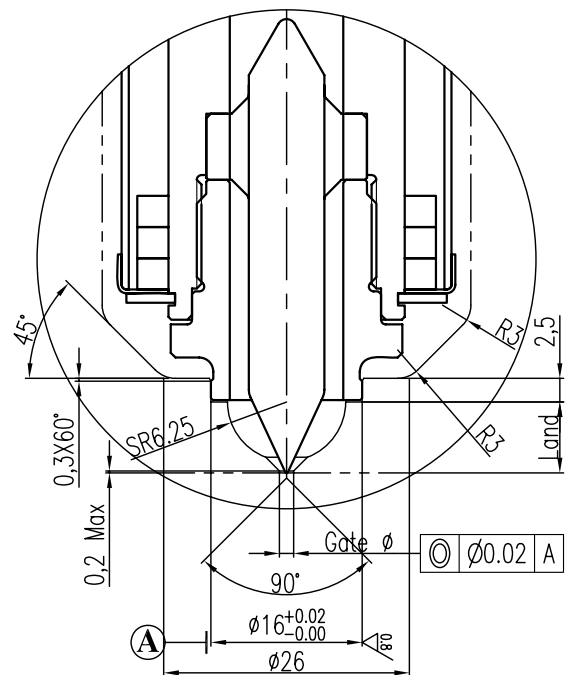
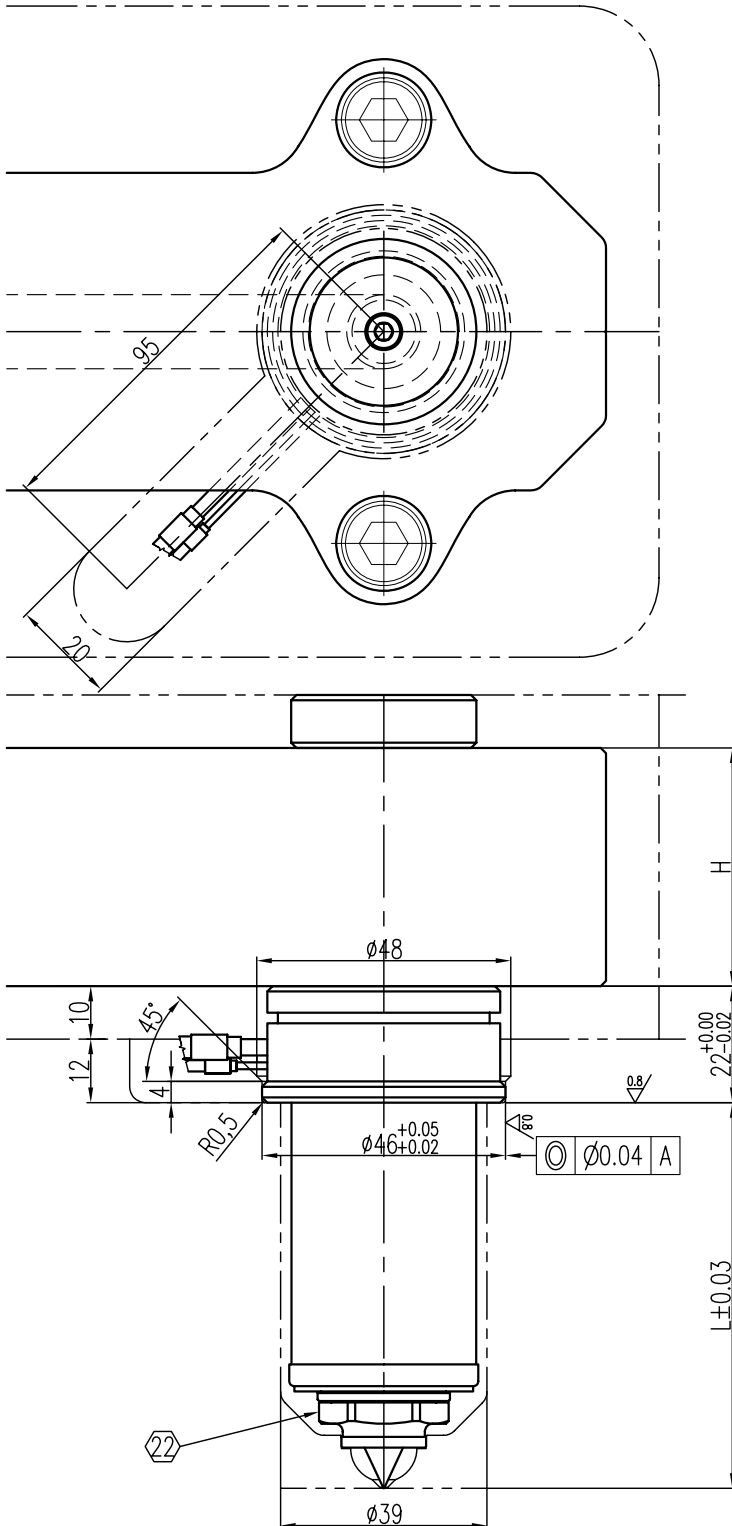
L	H	Gate ϕ	Land
50 - 350	45, 50, 55, 66	1,2 - 2,5	7,5



BX

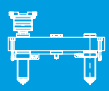
C-type torpedo (CT)

- suited for amorphous and semi-crystalline materials
- suited for color change



Related to the scope of size (when out of range, special design needed)

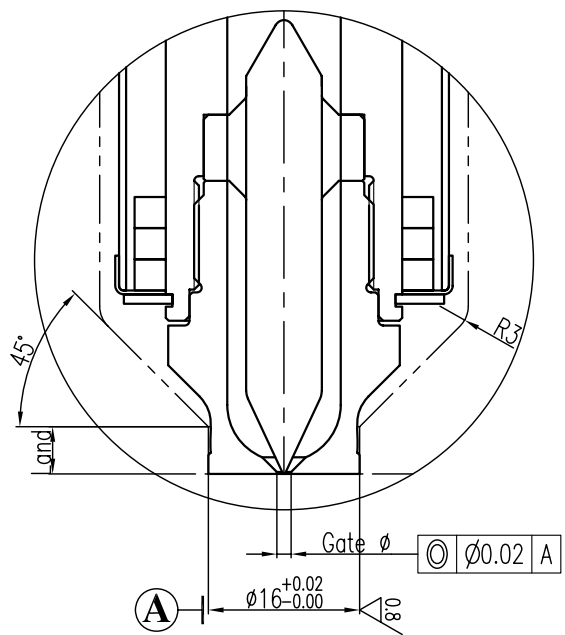
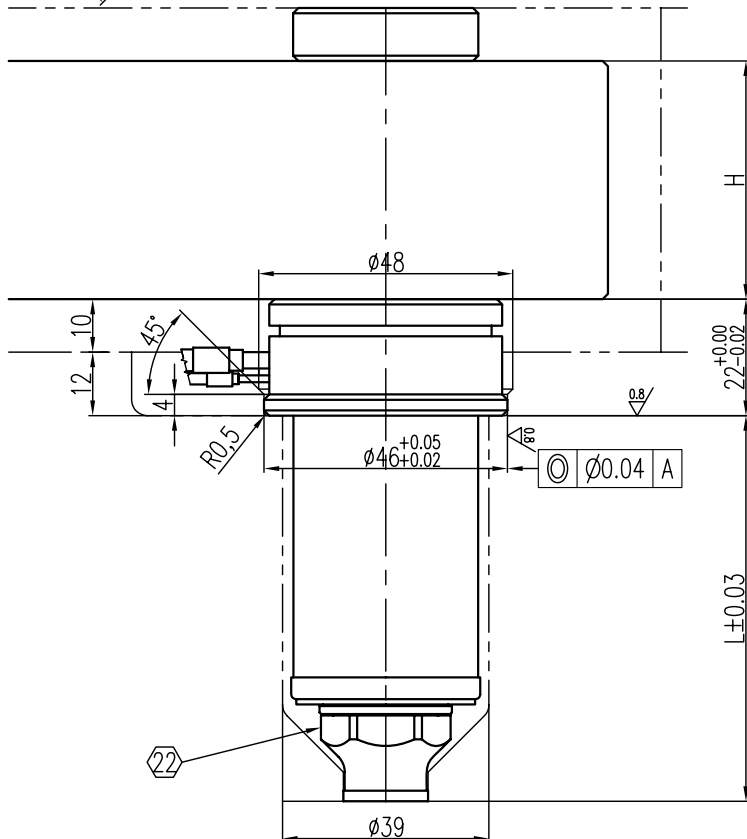
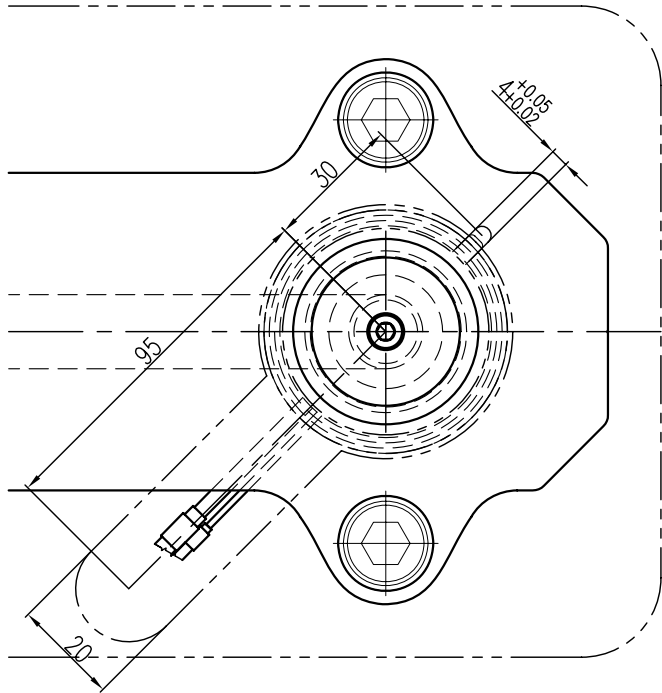
L	H	Gate ϕ	Land
50 - 350	45, 50, 55, 66	1,2 - 2,5	7,7



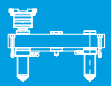
BX

C-type torpedo with bushing (CTB)

- suited for crystalline materials
- simplifies mold manufacturing
- suited for color change



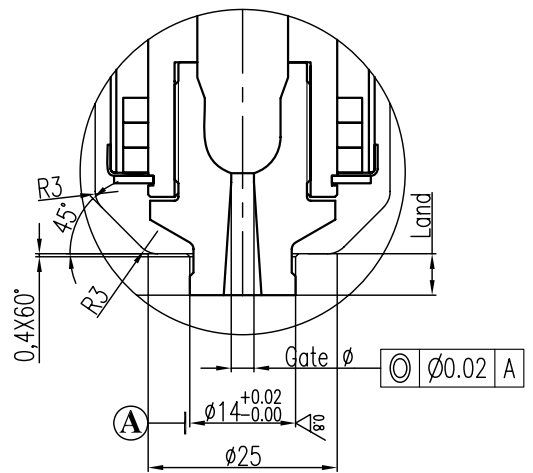
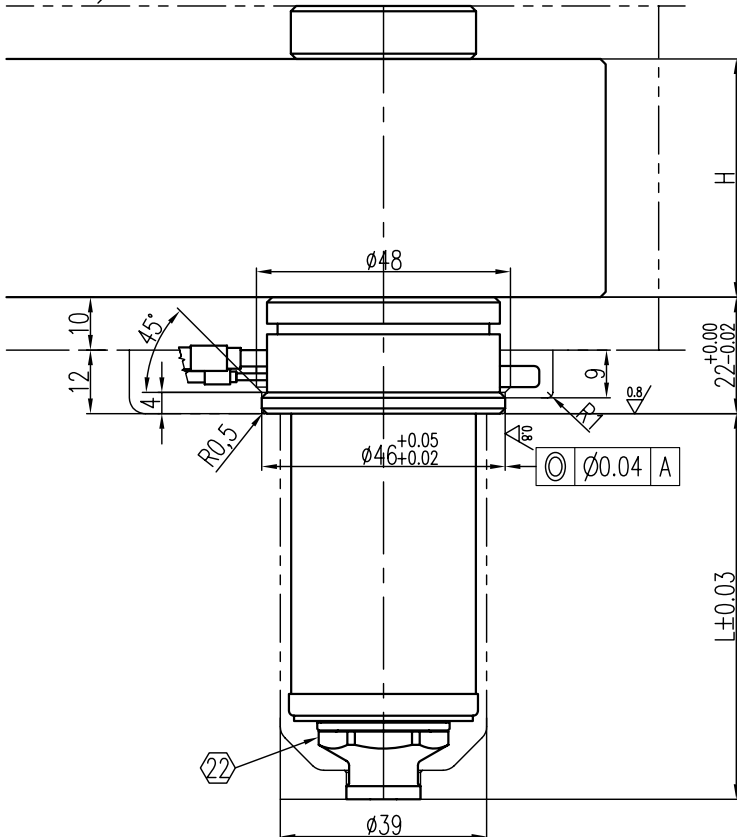
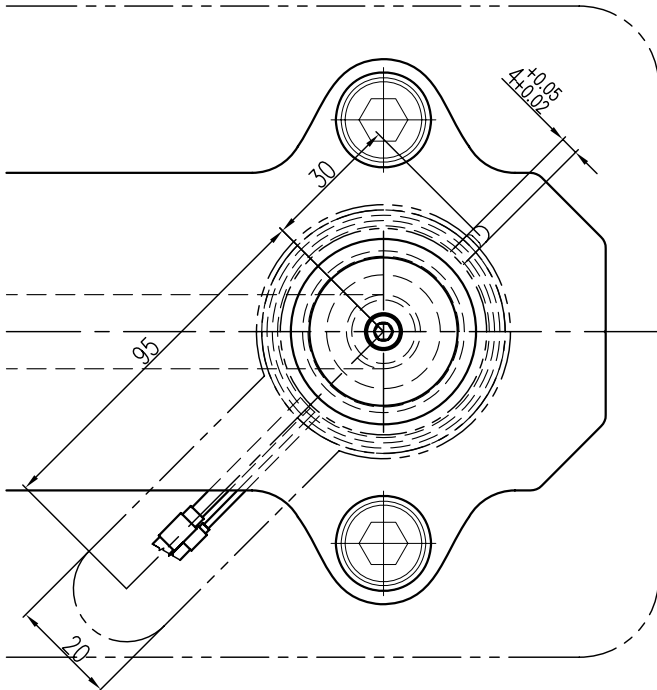
Related to the scope of size (when out of range, special design needed)			
L	H	Gate Ø	Land
50 - 350	45, 50, 55, 66	1,2 - 2,5	5



BX

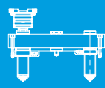
Hot Sprue (HS)

- suited for all materials
- gating into the sub runners
- nozzle profile adjustments by the moldmaker required



Related to the scope of size (when out of range, special design needed)

L	H	Gate Ø	Land
50 - 350	45, 50, 55, 66	1,5 - 3,5	7,5

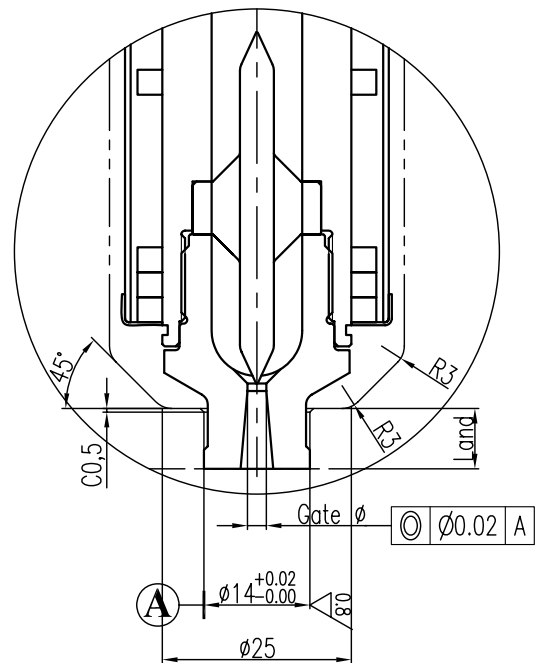
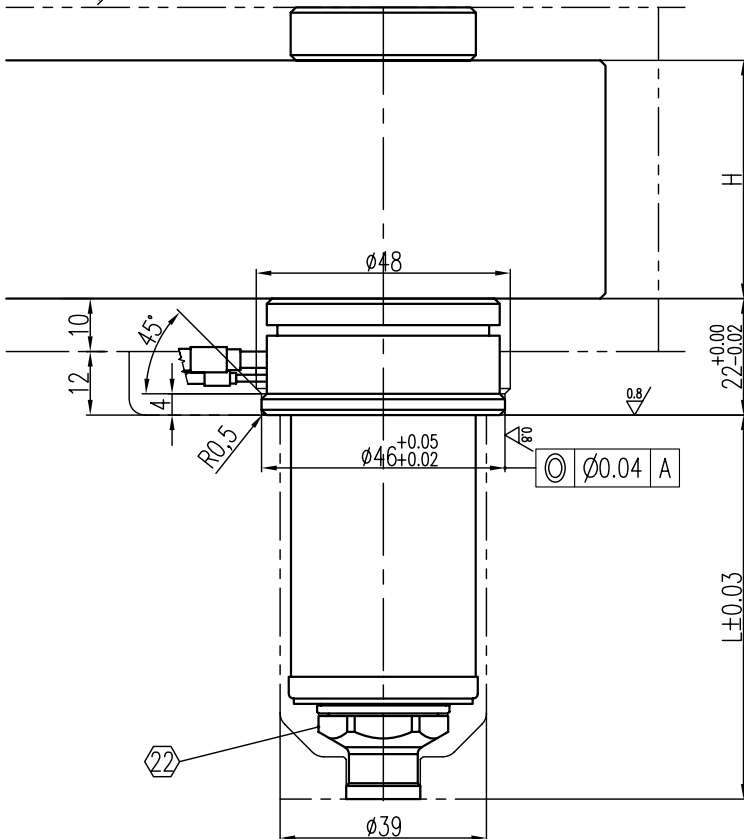
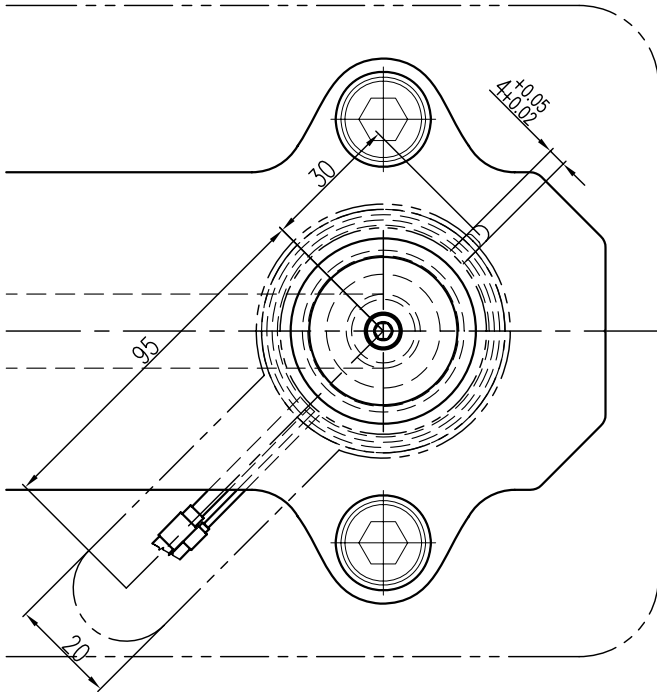


BX

Torpedo Bushing (TB)

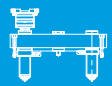


- designed for high processing temperature engineering materials
- gating into the sub runners
- nozzle profile adjustments by the moldmaker required



Related to the scope of size (when out of range, special design needed)

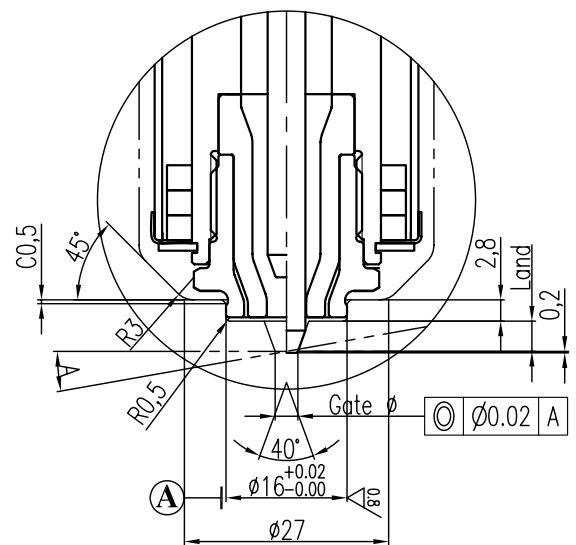
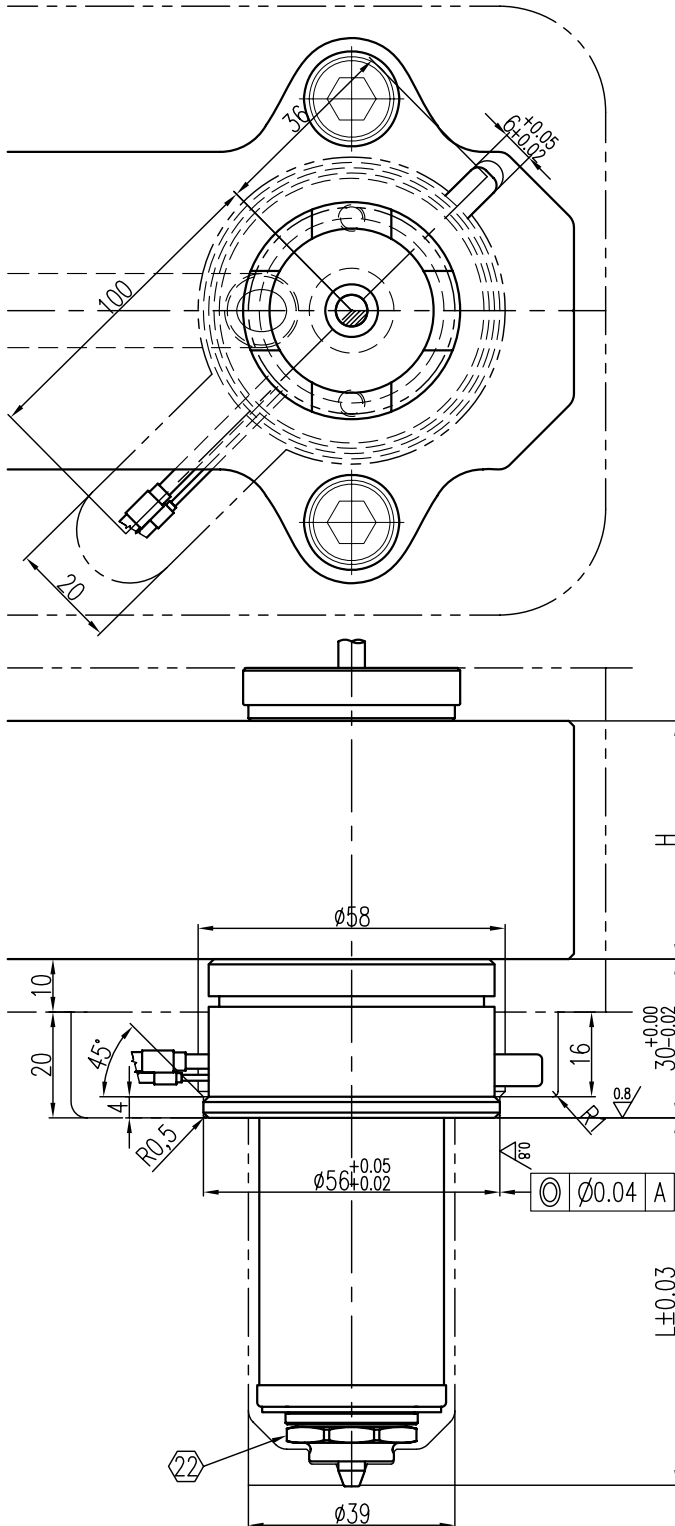
L	H	Gate Ø	Land
50 - 350	40, 45, 50, 55	1,8 - 3,5	8,0



BX

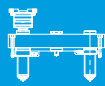
Bi-Met C-type valve (CV)

- suited for all materials
- use PE50 or PE65 pneumatic cylinder or HE45 hydraulic cylinder
- can be used when $A < 10^\circ$



Related to the scope of size (when out of range, special design needed)

L	H	A	Gate ϕ	Land
50 - 350	40, 50, 55, 60	$0^\circ - 10^\circ$	2	4
			3	4

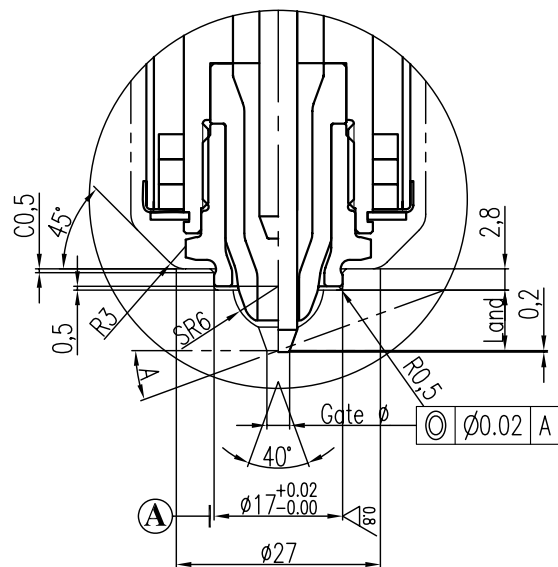
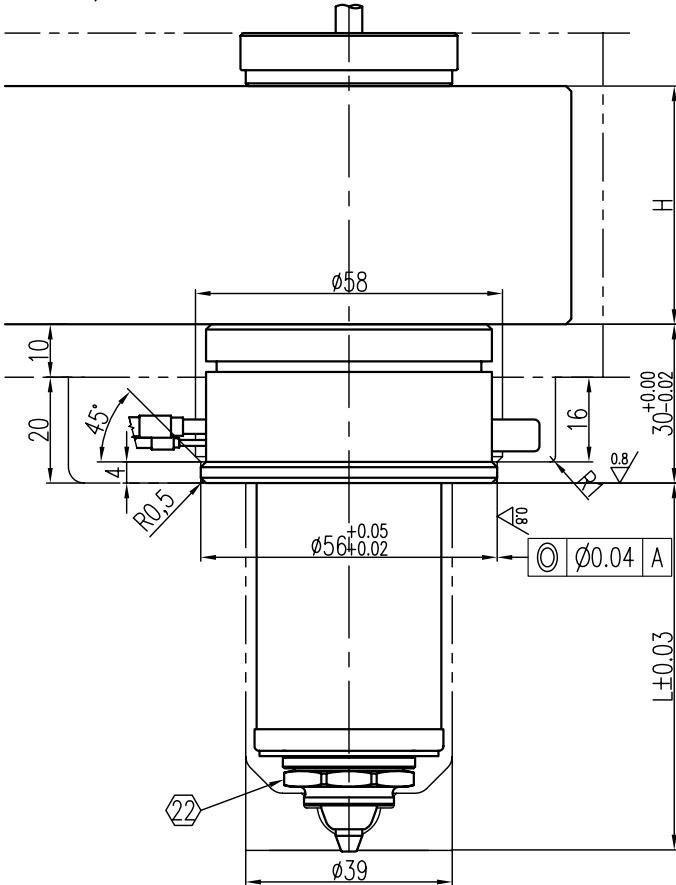
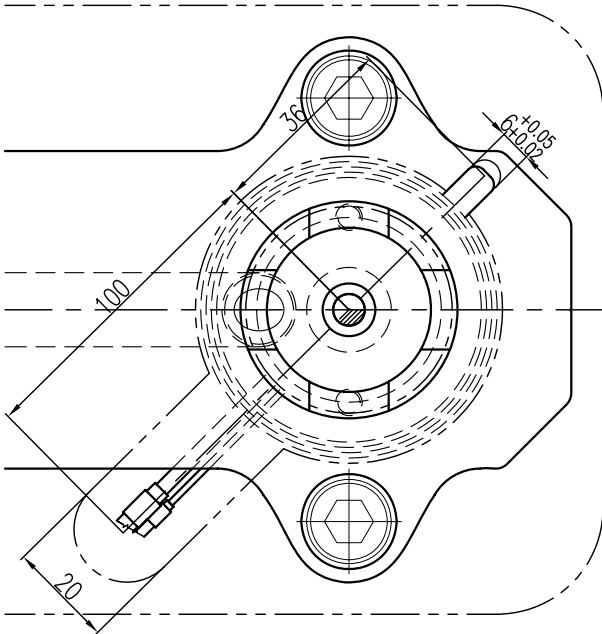


BX

Bi-Met extended C-type valve (CVE)

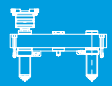


- suited for all materials
- use PE50 or PE65 pneumatic cylinder or HE45 hydraulic cylinder
- can be used when $A < 20^\circ$



Related to the scope of size (when out of range, special design needed)

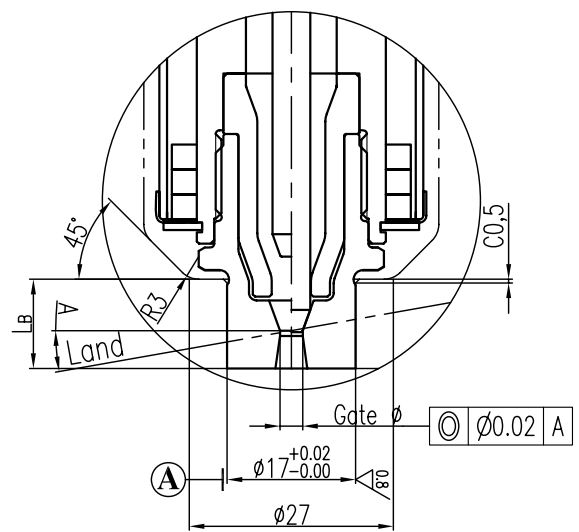
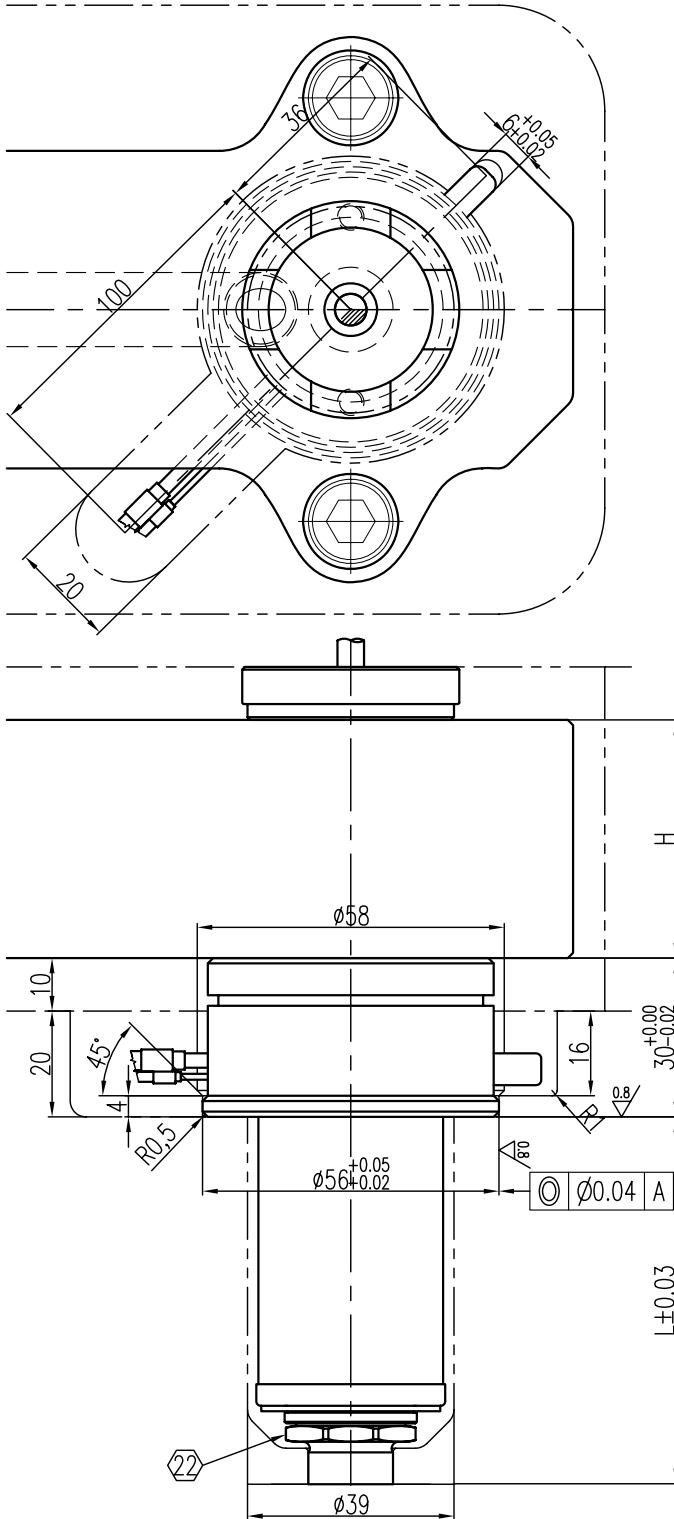
L	H	A	Gate Ø	Land
50 - 350	40, 50, 55, 60	0° - 10°	2-3	8,0
		10° - 20°	2-3	8,5



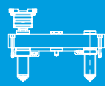
BX

Bi-Met C-valve with bushing (CVB)

- suited for all materials
- use PE50 or PE65 pneumatic cylinder or HE45 hydraulic cylinder
- can be used when $A < 10^\circ$
- simplifies mold manufacturing



Related to the scope of size (when out of range, special design needed)				
L	H	A	Gate ϕ	L _B
50 - 350	40, 50, 55, 60	-	2, 3	6,8
		$0^\circ - 10^\circ$	3,3	12,0

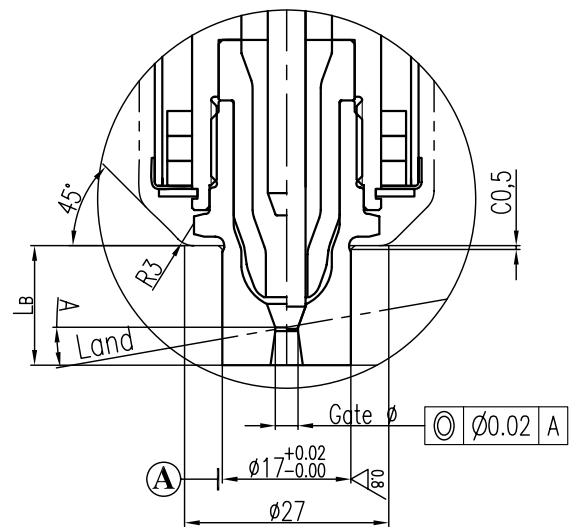
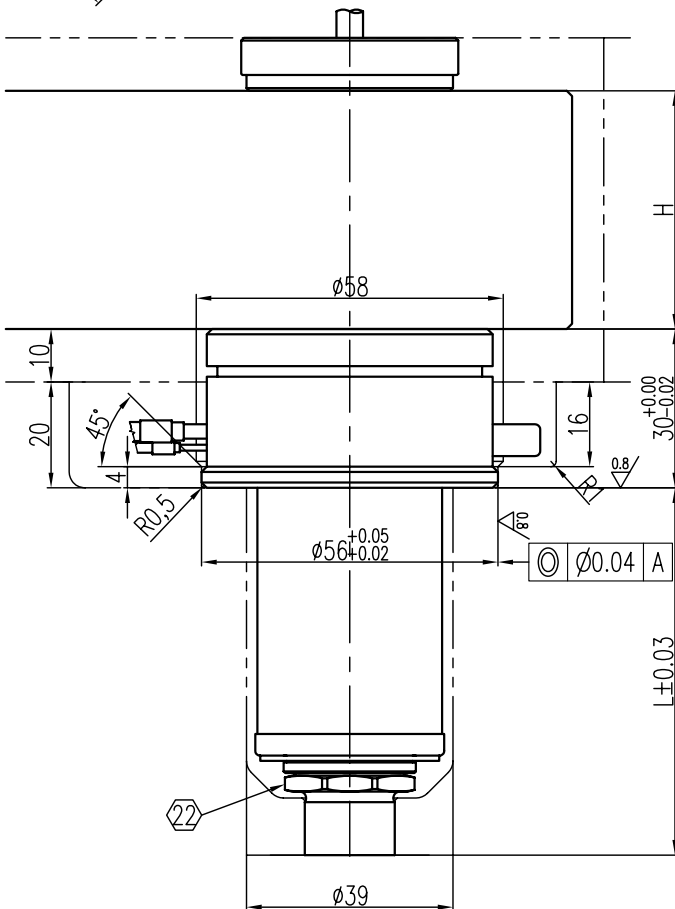
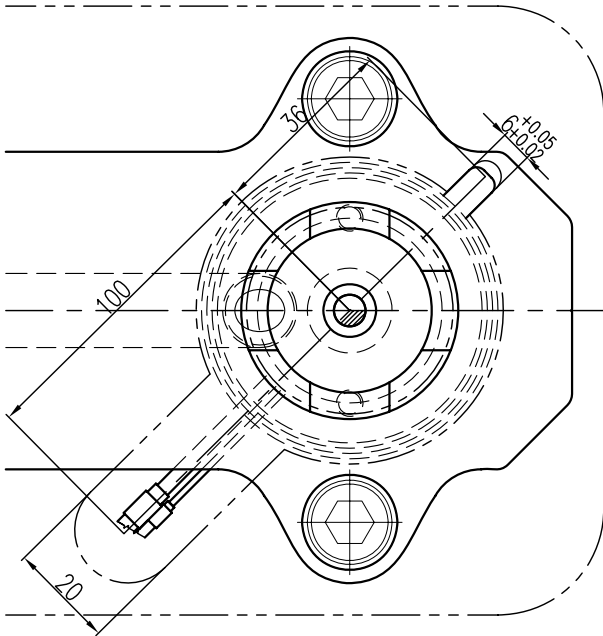


BX

Bi-Met extended C-valve with bushing (CVEB)

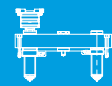


- suited for all materials
- use PE50 or PE65 pneumatic cylinder or HE45 hydraulic cylinder
- can be used when $A < 20^\circ$
- simplifies mold manufacturing



Related to the scope of size (when out of range, special design needed)

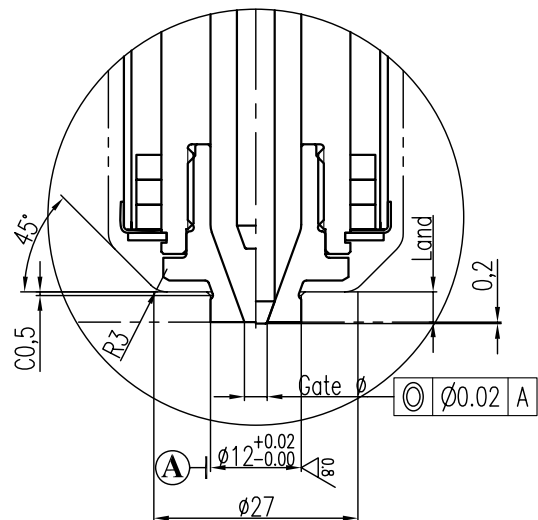
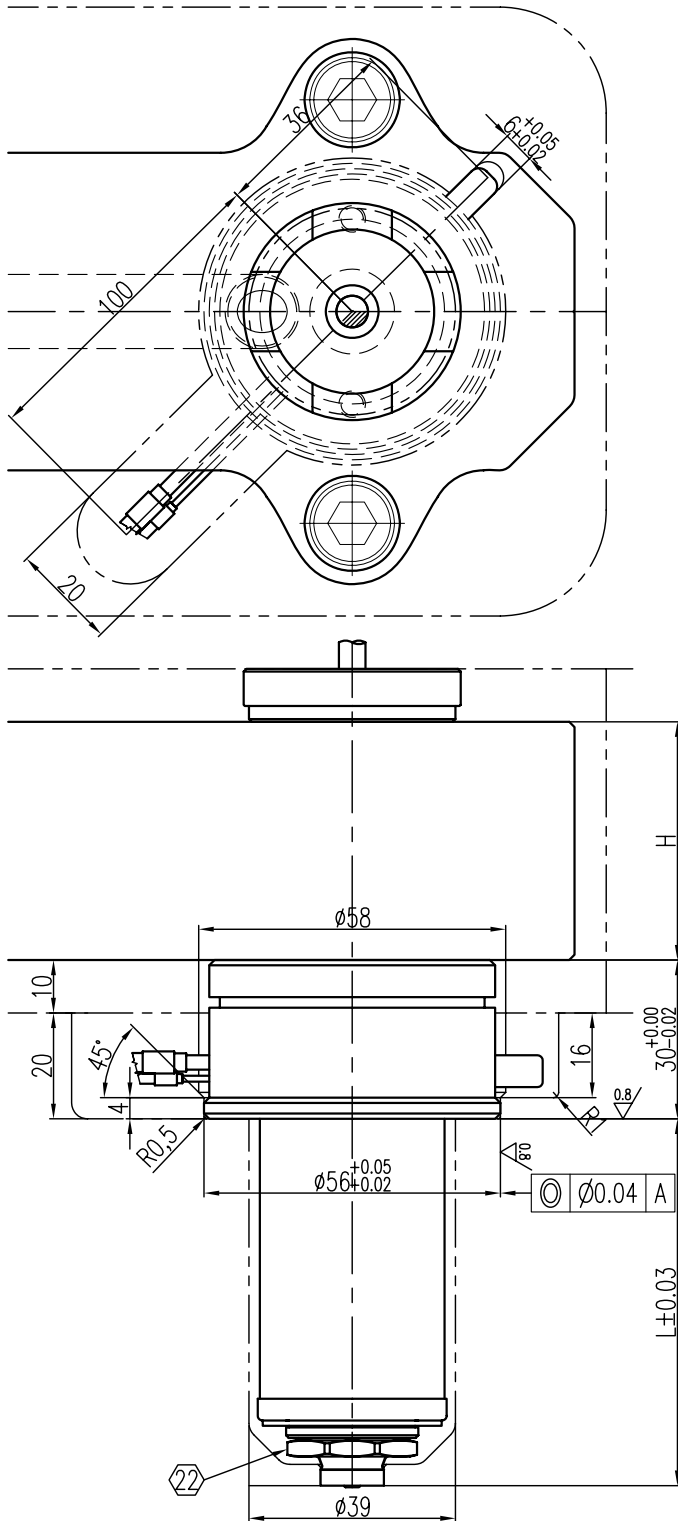
L	H	A	Gate Ø	LB
50 - 350	40, 50, 55, 60	-	2,3	10,8
		$0^\circ - 20^\circ$	3,3	16,0



E-type valve (EV)

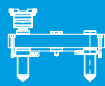
BX

- suited for crystalline materials
- use PE50 or PE65 pneumatic cylinder or HE45 hydraulic cylinder
- simplifies mold manufacturing



Related to the scope of size (when out of range, special design needed)

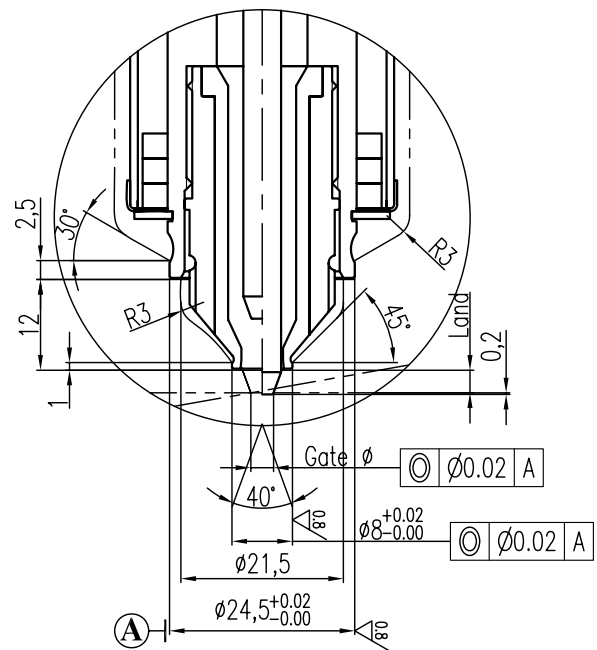
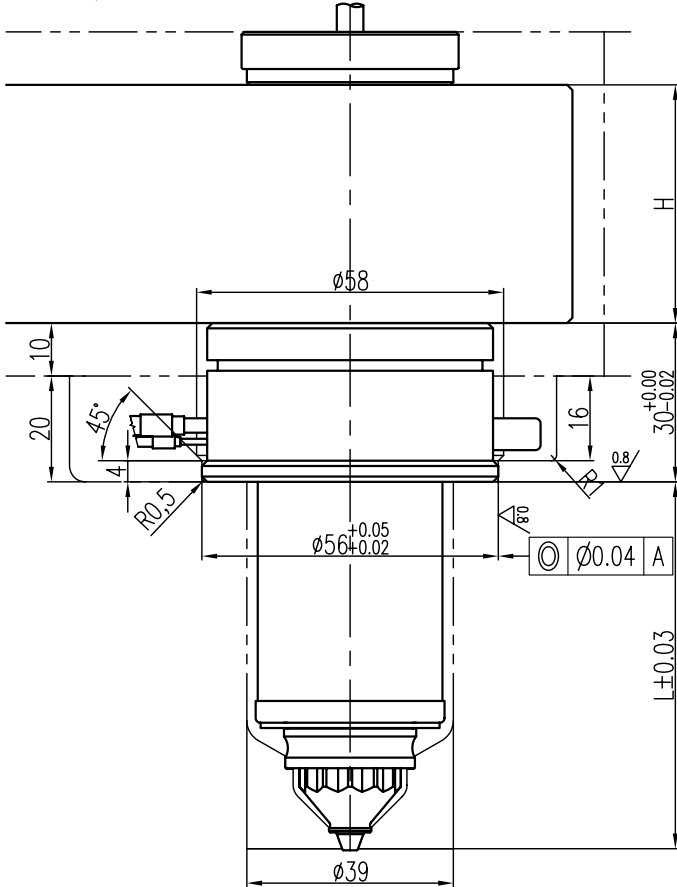
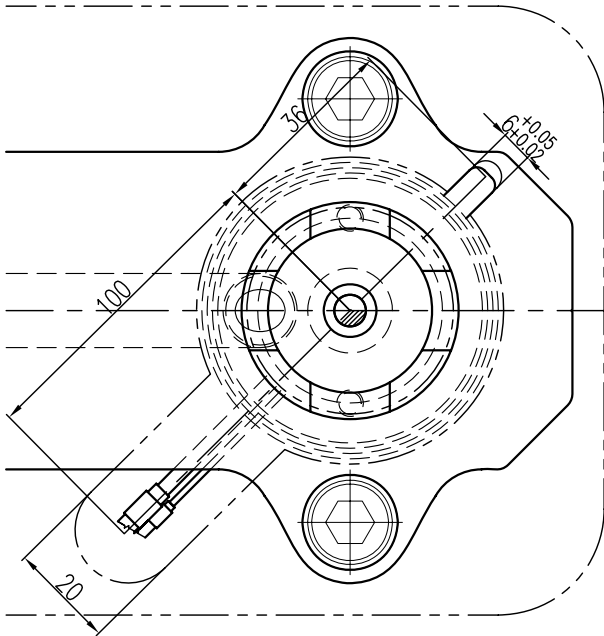
L	H	Gate ϕ	Land
50 - 350	45, 50, 55, 60	2	4
		3	4



BX

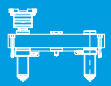
Bi-Met W-valve (WV)

- suited for low processing temperature amorphous and semi-crystalline materials
- use PE50 or PE65 pneumatic cylinder or HE45 hydraulic cylinder
- can be used when $A < 10^\circ$
- especially designed for high friction material



Related to the scope of size (when out of range, special design needed)

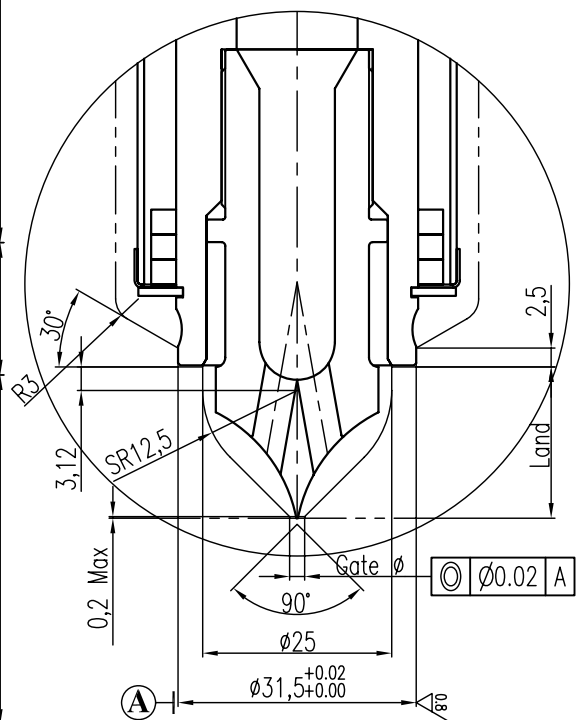
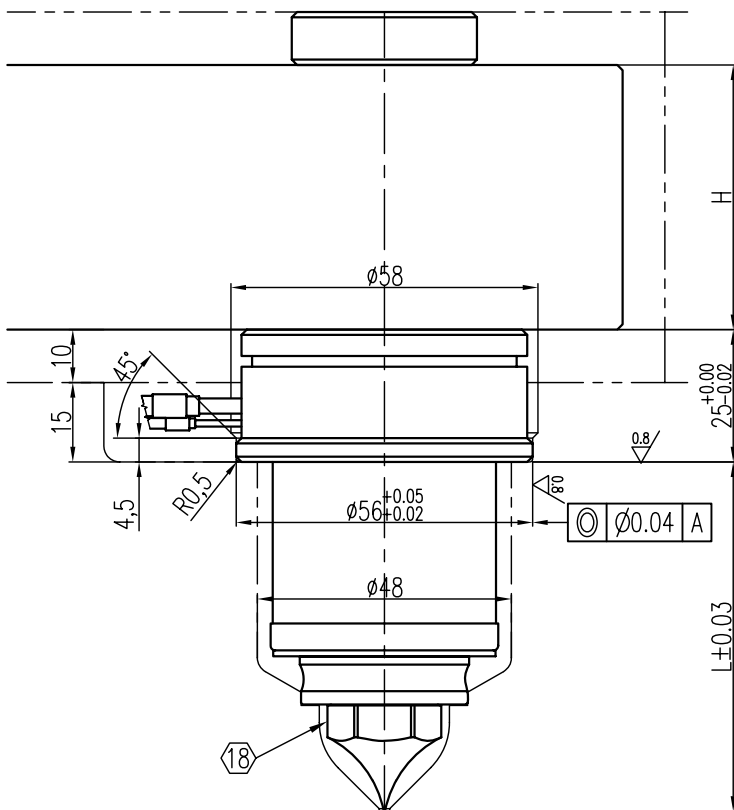
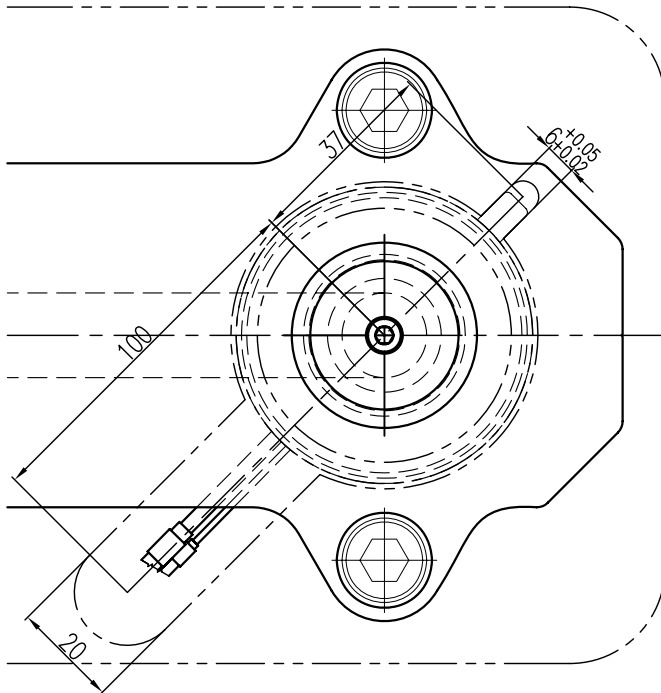
L	H	A	Gate Ø	L _B
50 - 350	45, 50, 55, 60	0° - 10°	2	3,2
			3	3,2



BX

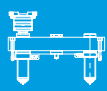
E-type torpedo (ET)

- suited for amorphous and semi-crystalline materials
- not suited for color change



Related to the scope of size (when out of range, special design needed)

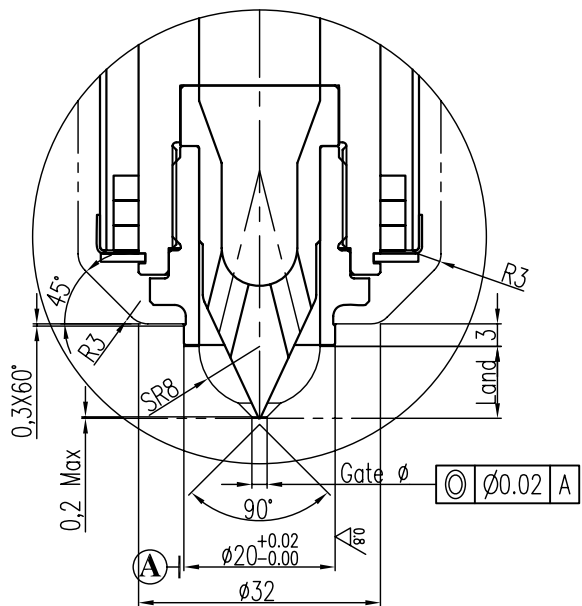
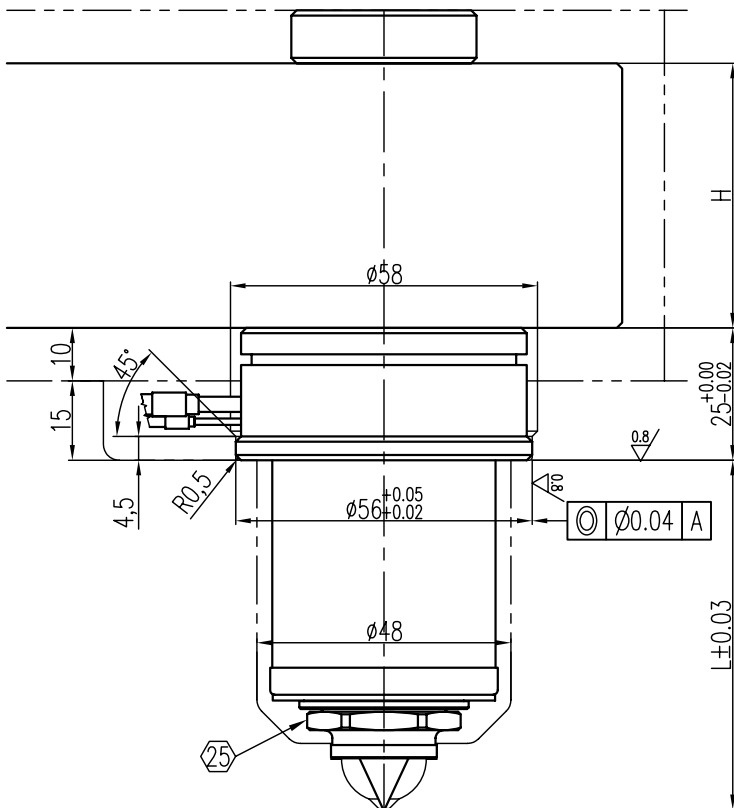
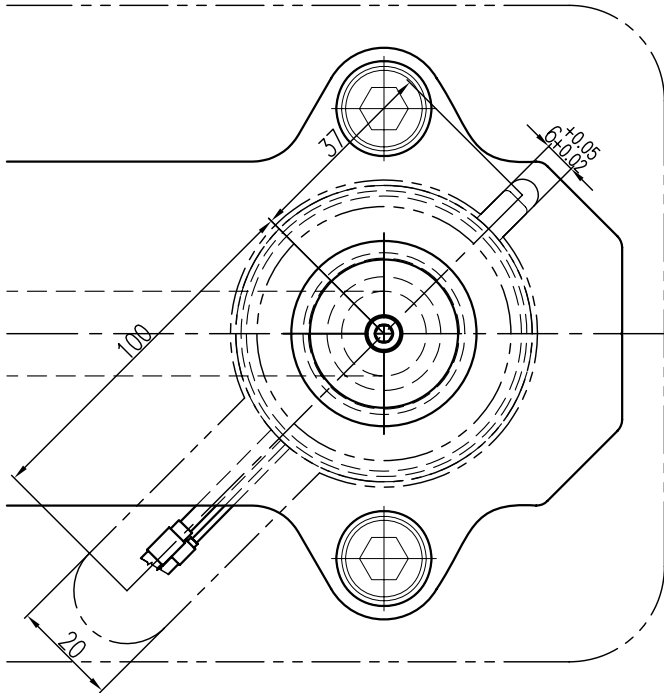
L	H	Gate Ø	Land
60 - 500	50, 55, 60, 65	1,5 - 2,5	20



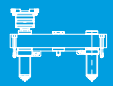
BX

S-type torpedo (ST)

- suited for amorphous and semi-crystalline materials
- not suited for color change

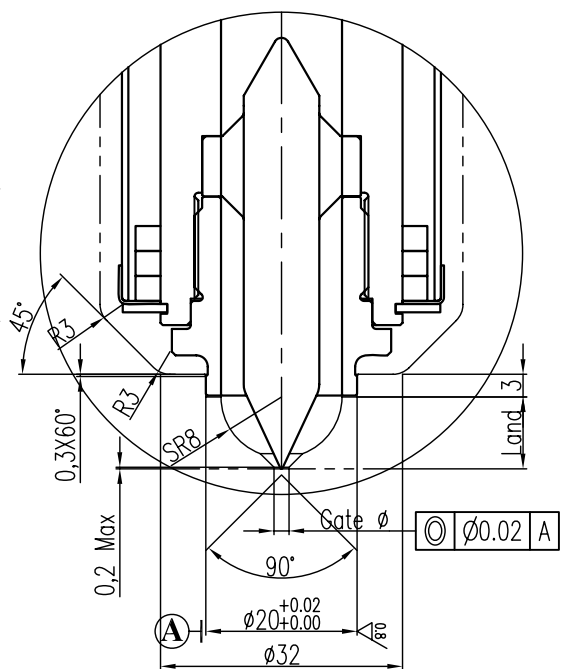
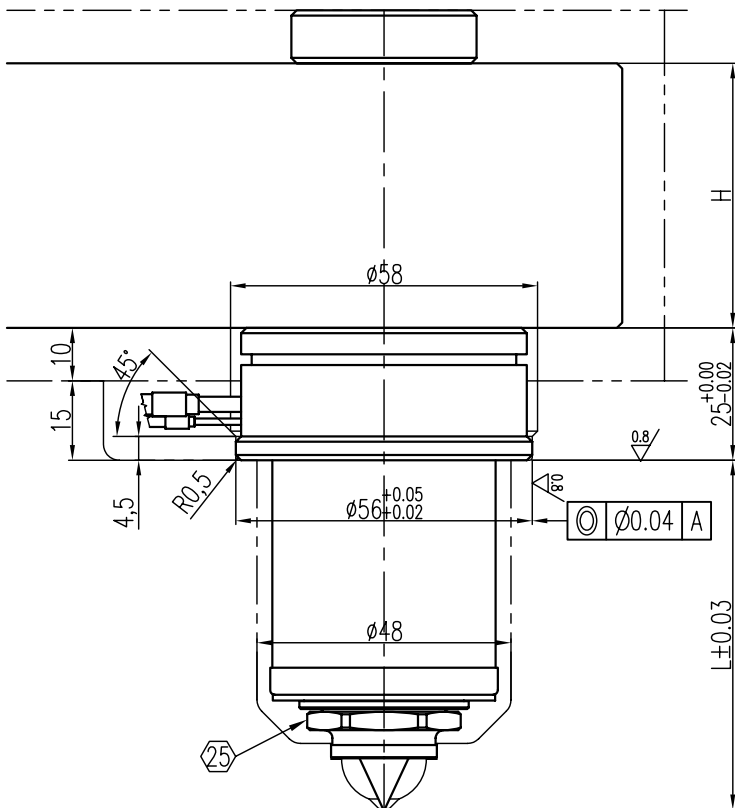
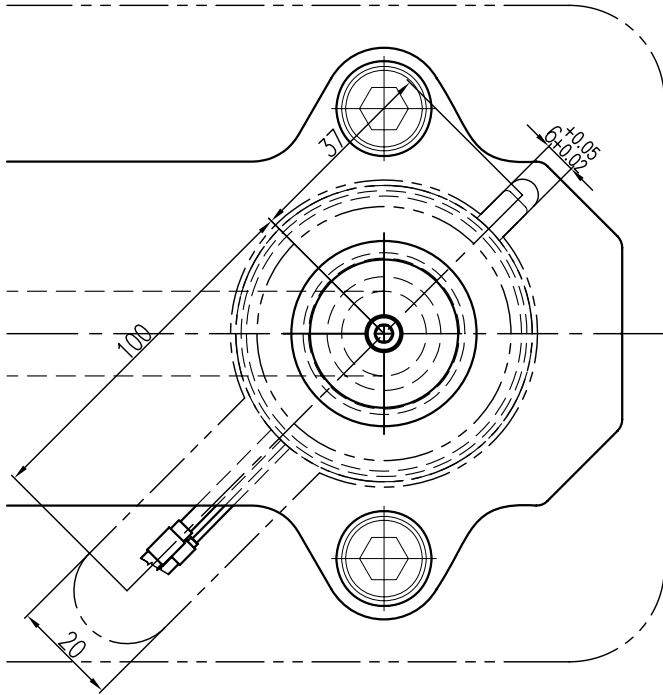


Related to the scope of size (when out of range, special design needed)			
L	H	Gate Ø	Land
50 - 500	50, 55, 60, 65	1,5 - 2,5	9,5



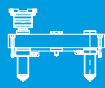
BX

- C-type torpedo (CT)
- suited for amorphous and semi-crystalline materials
 - suited for color change



Related to the scope of size (when out of range, special design needed)

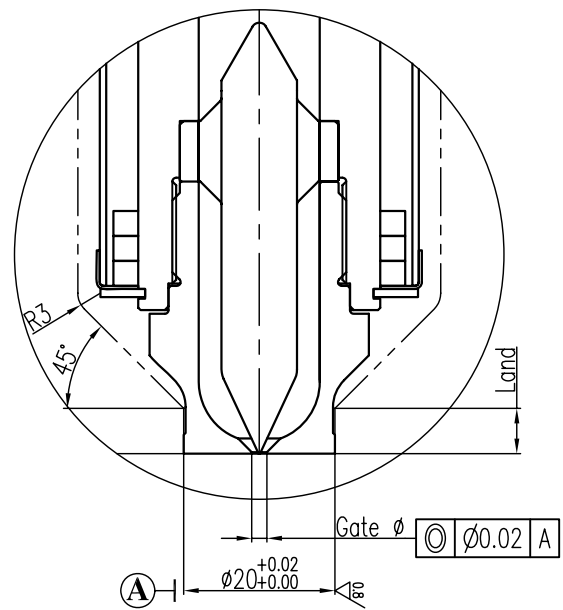
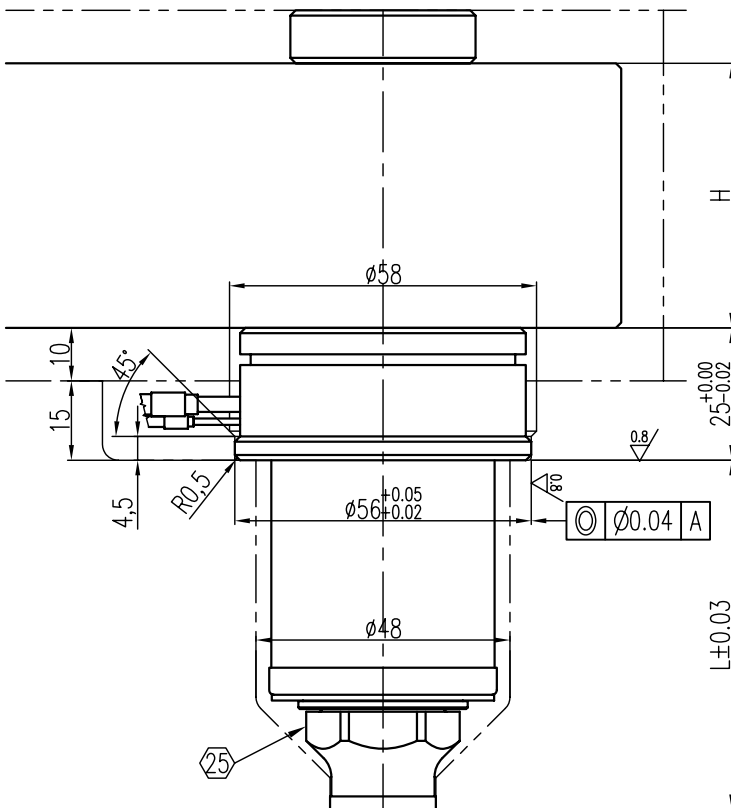
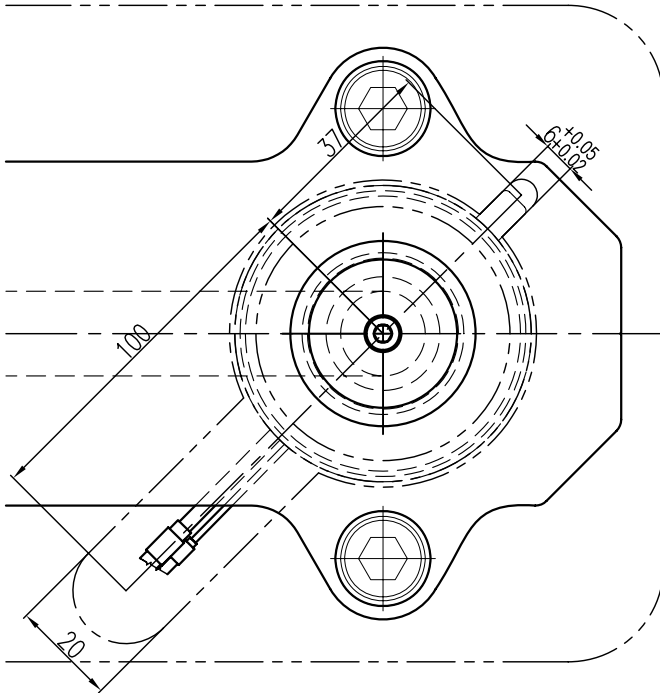
L	H	Gate Ø	Land
50 - 500	50, 55, 60, 65	1,5 - 2,5	9,5



BX

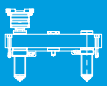
C-type torpedo with bushing (CTB)

- suited for crystalline materials
- simplifies mold manufacturing
- suited for color change



Related to the scope of size (when out of range, special design needed)

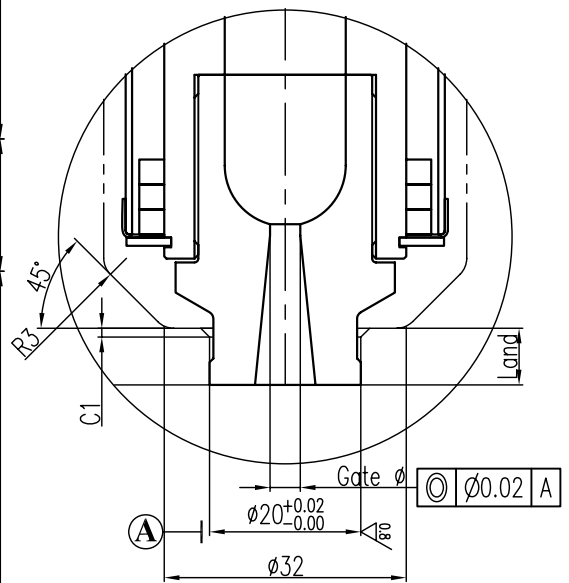
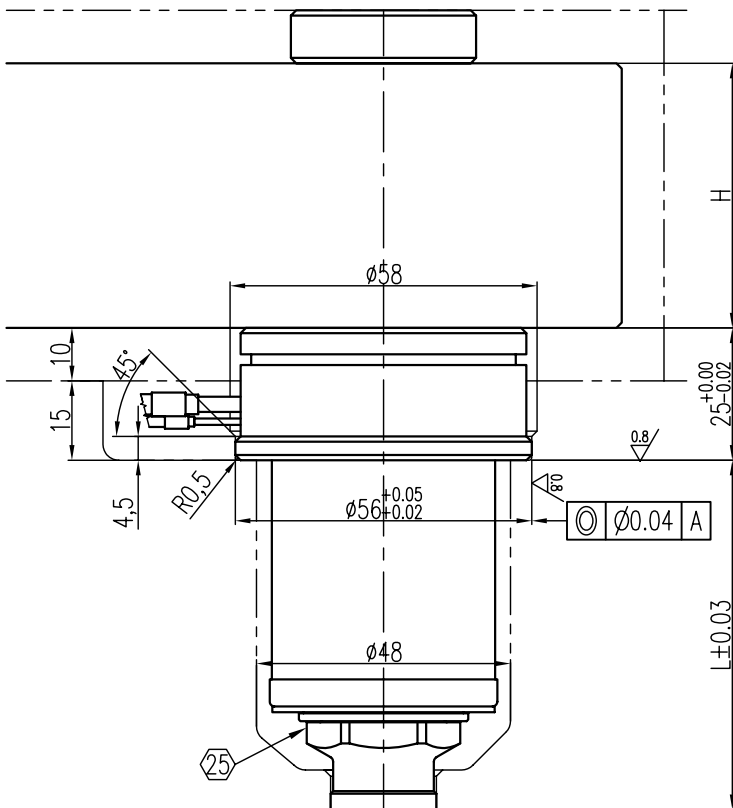
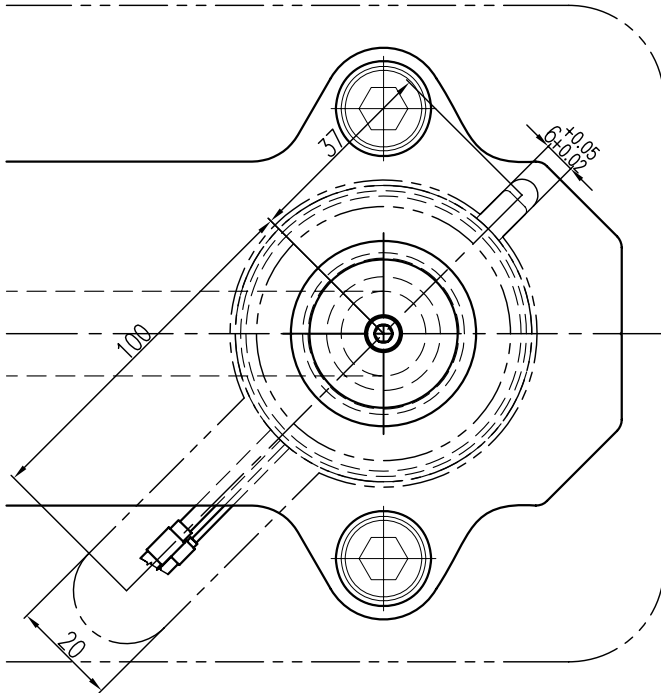
L	H	Gate Ø	Land
50 - 500	50, 55, 60, 65	1,5-2,5	6



BX

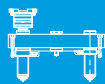
Hot Sprue (HS)

- suited for all materials
- gating into the sub runners
- nozzle profile adjustments by the moldmaker



Related to the scope of size (when out of range, special design needed)

L	H	Gate Ø	Land
50 - 500	50, 55, 60, 65	1,5 - 5	7,5

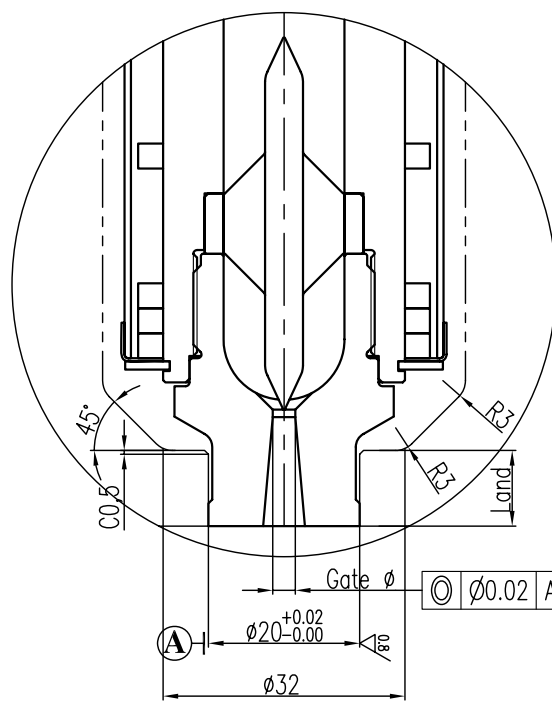
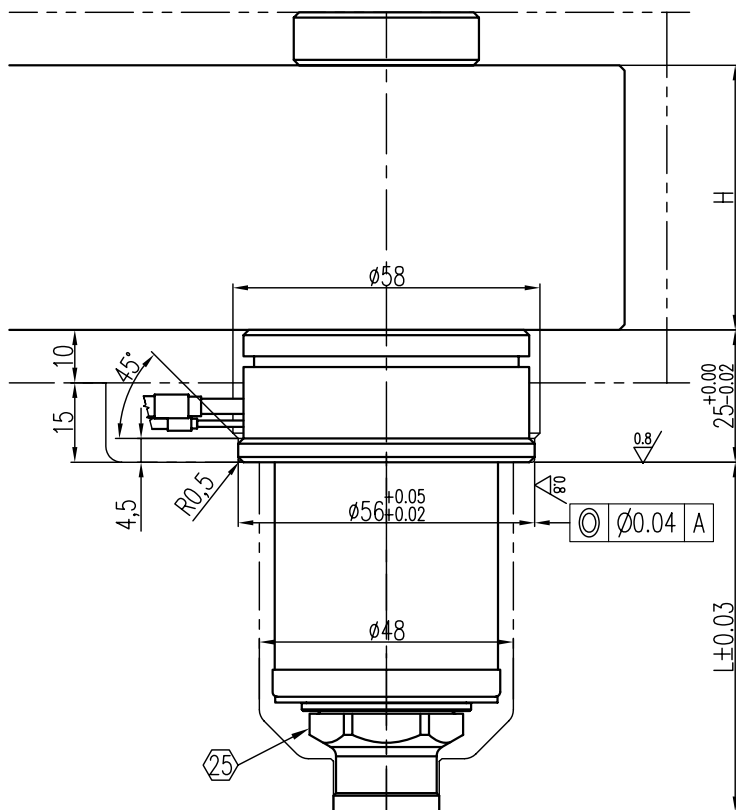
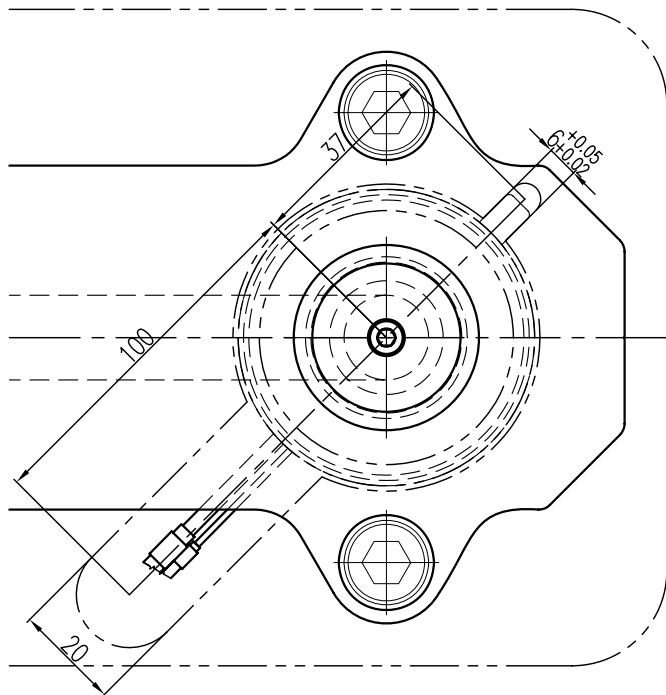


BX

Torpedo Bushing (TB)

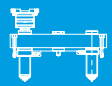


- designed for high processing temperature engineering materials
- gating into the sub runners
- nozzle profile adjustments by the moldmaker required



Related to the scope of size (when out of range, special design needed)

L	H	Gate Ø	Land
50 - 500	50, 55, 60, 65	2,0 - 5,0	10,0

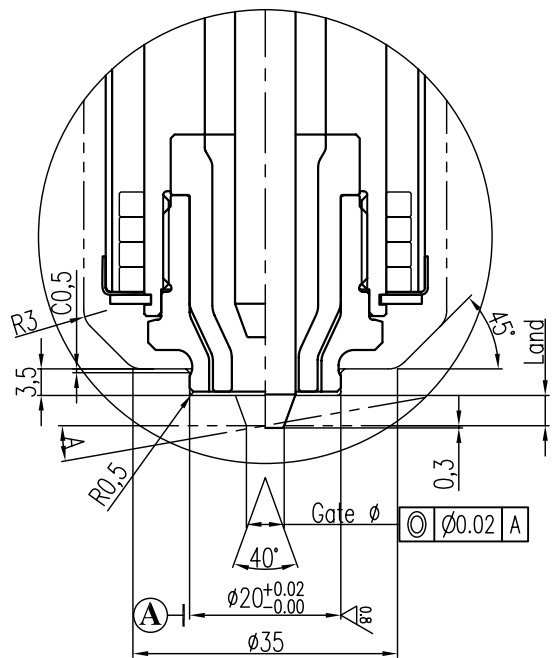
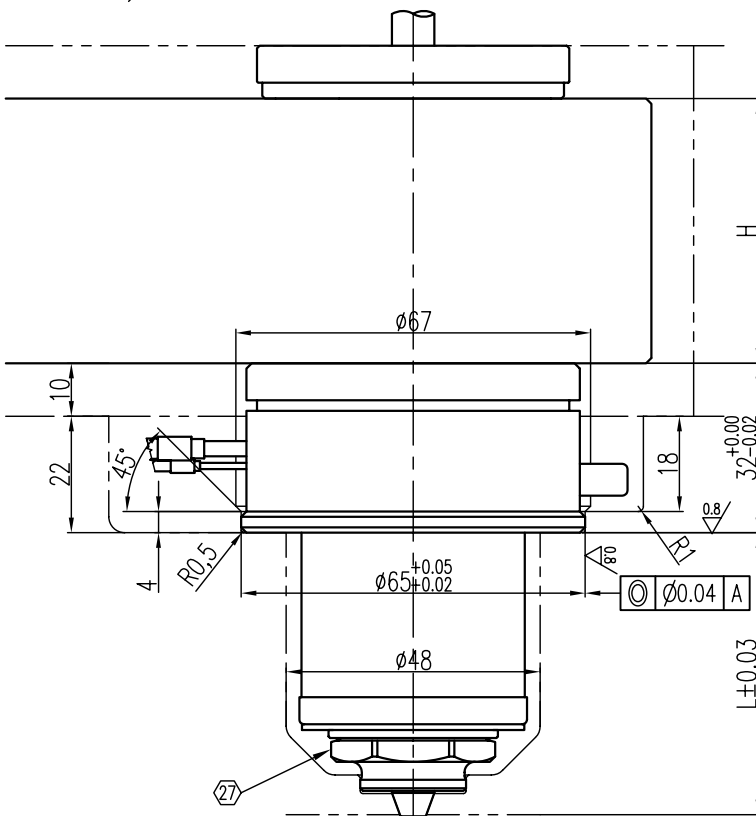
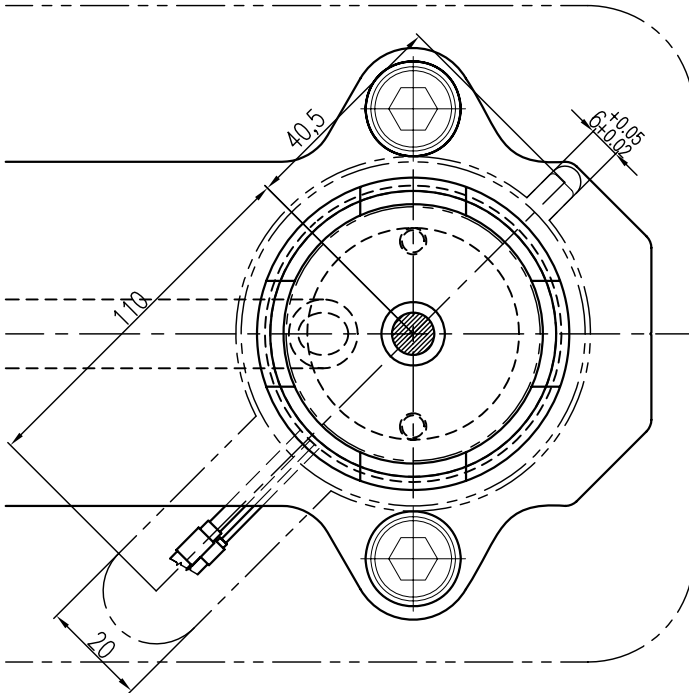


BX

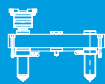
Bi-Met C-type valve (CV)



- suited for all materials
- use PE65 pneumatic cylinder or HE45 hydraulic cylinder
- can be used when $A < 10^\circ$



Related to the scope of size (when out of range, special design needed)				
L	H	A	Gate Ø	Land
50 - 500	50, 55, 60, 65	0° - 10°	3	4
			4	4
			5	4

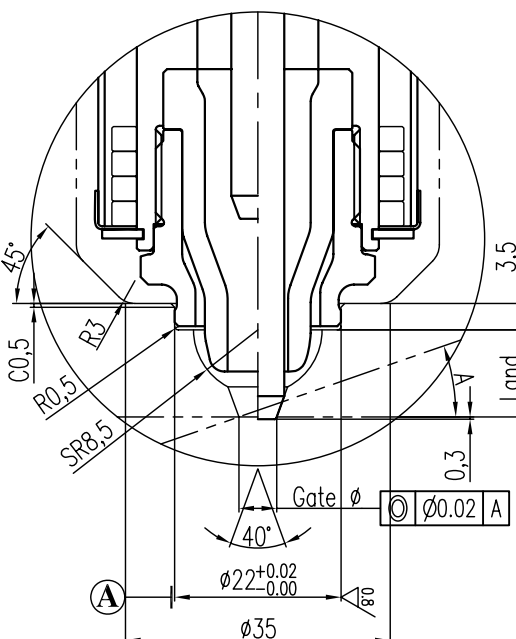
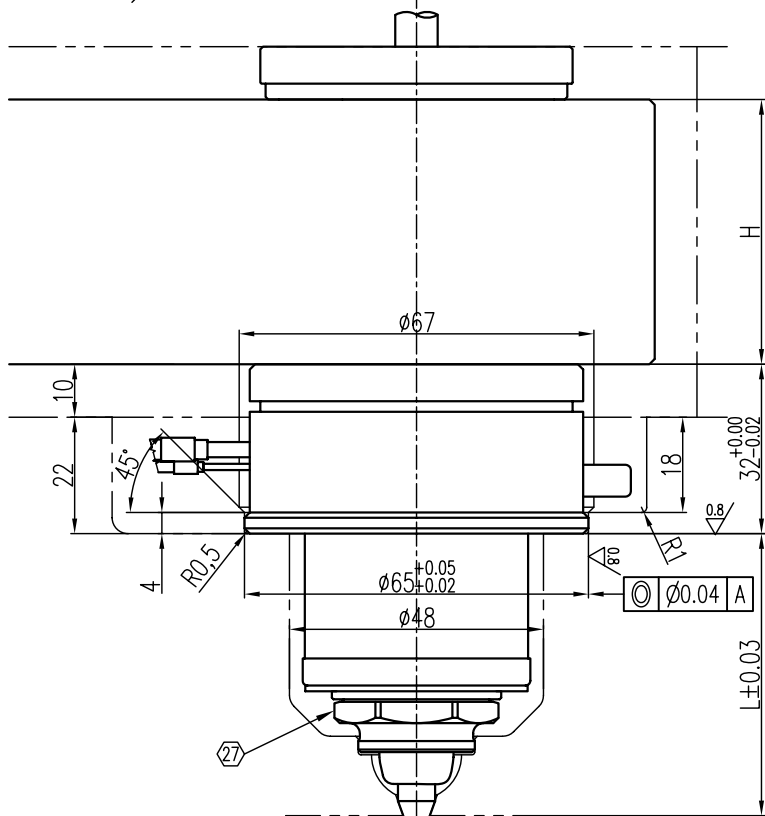
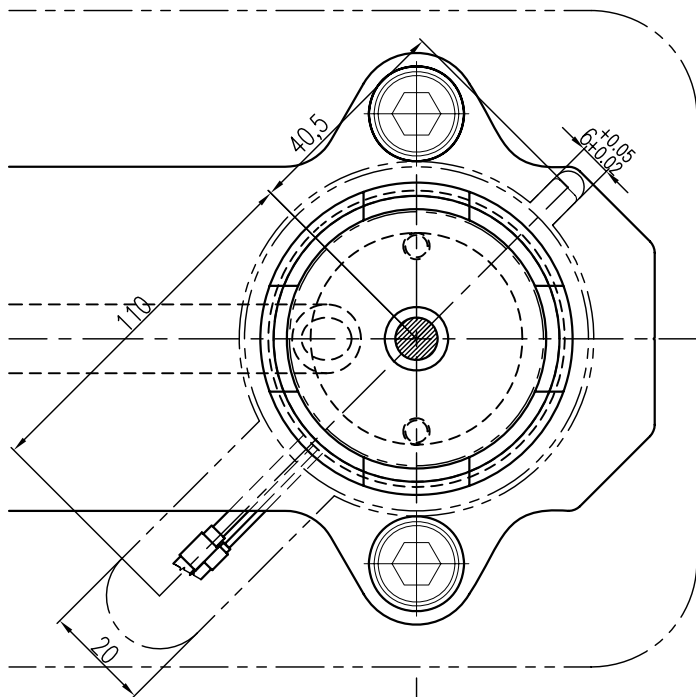


BX

Bi-Met extended C-type valve (CVE)

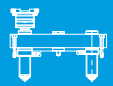


- suited for all materials
- use PE65 pneumatic cylinder or HE45 hydraulic cylinder
- can be used when $A < 20^\circ$



Related to the scope of size (when out of range, special design needed)

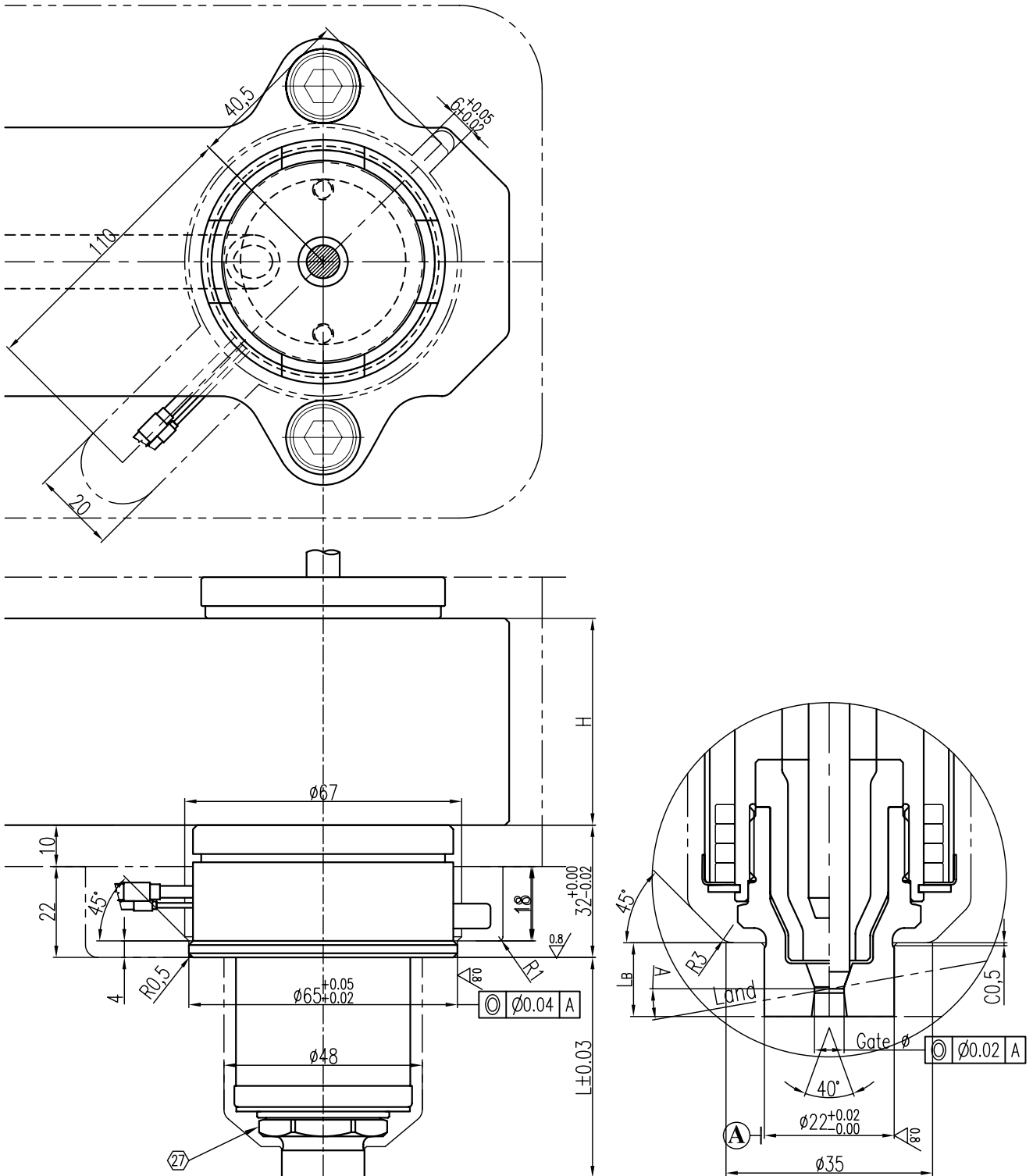
L	H	A	Gate Ø	Land
60 - 500	50, 55, 60, 65	0° - 10°	3, 4, 5	11,5
		10° - 20°	3, 4, 5	12,2



Bi-Met C-valve with bushing (CVB)

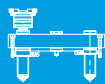
BX

- suited for all materials
- use PE65 pneumatic cylinder or HE45 hydraulic cylinder
- can be used when $A < 10^\circ$
- simplifies mold manufacturing



Related to the scope of size (when out of range, special design needed)

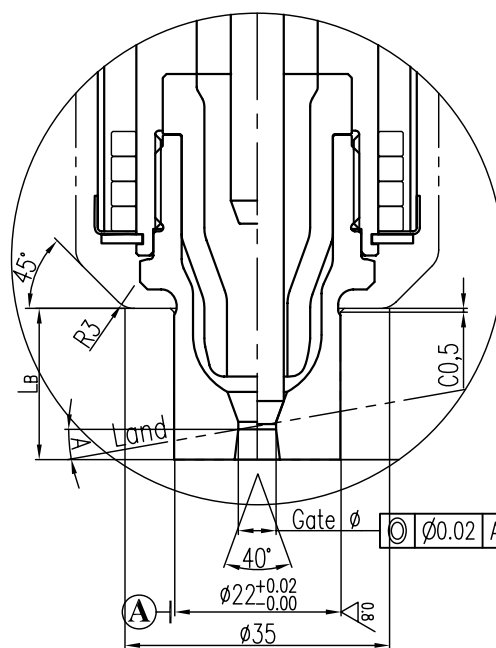
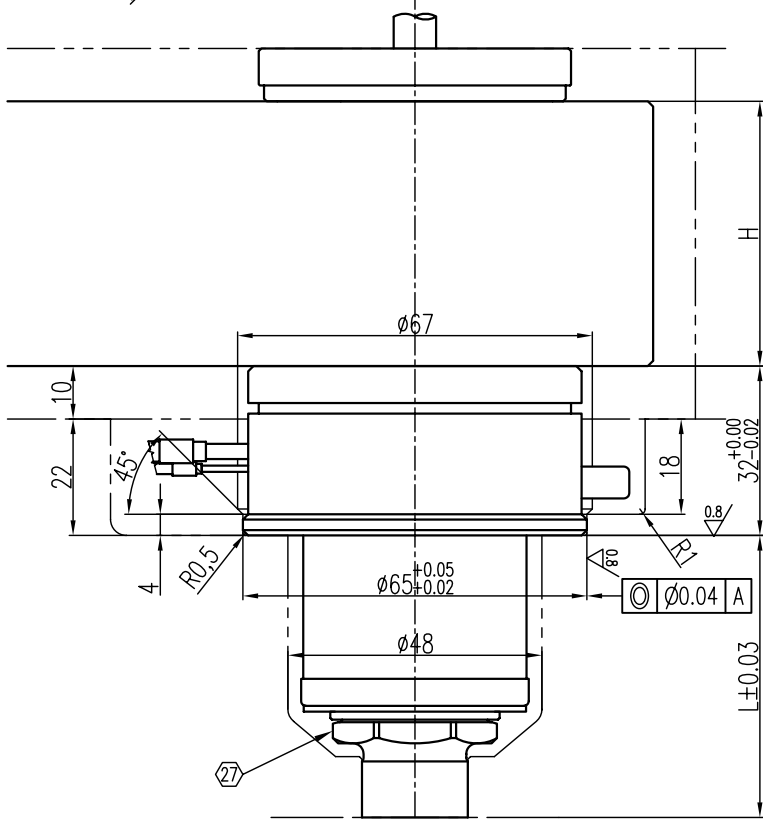
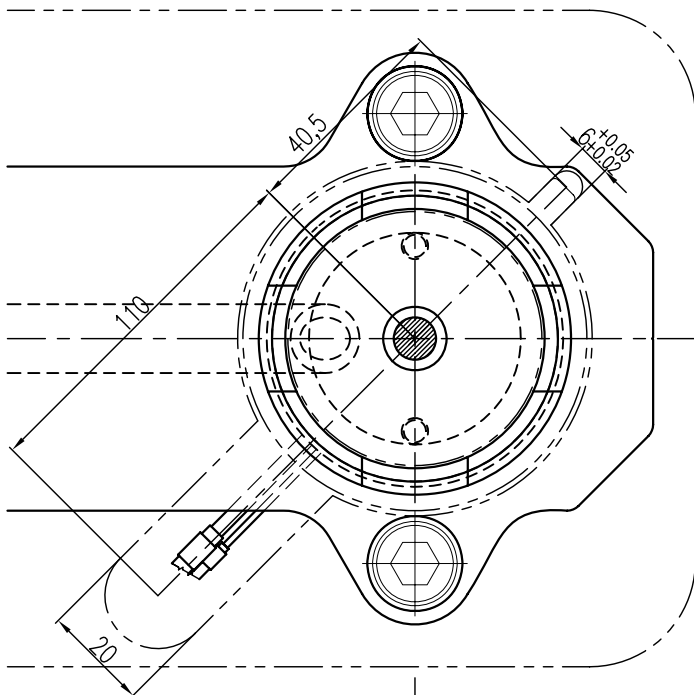
L	H	A	Gate Ø	Land
60 - 500	50, 55, 60, 65	-	3, 4, 5	7, 5
		$0^\circ - 10^\circ$	3, 4, 5	12, 5



BX

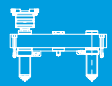
Bi-Met extended C-valve with bushing (CVEB)

- suited for all materials
- use PE65 pneumatic cylinder or HE45 hydraulic cylinder
- can be used when $A < 20^\circ$
- simplifies mold manufacturing



Related to the scope of size (when out of range, special design needed)

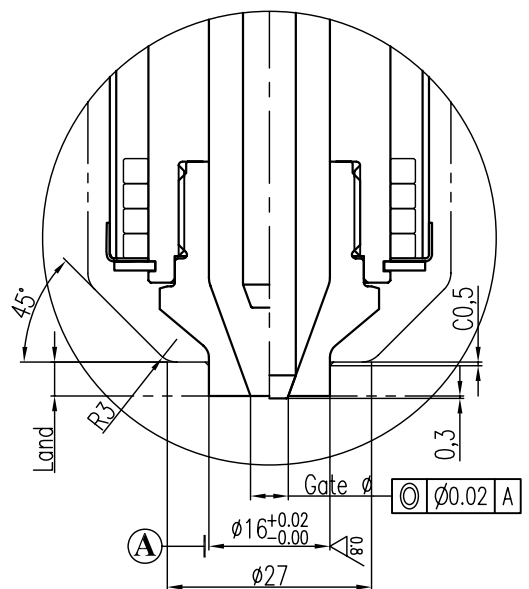
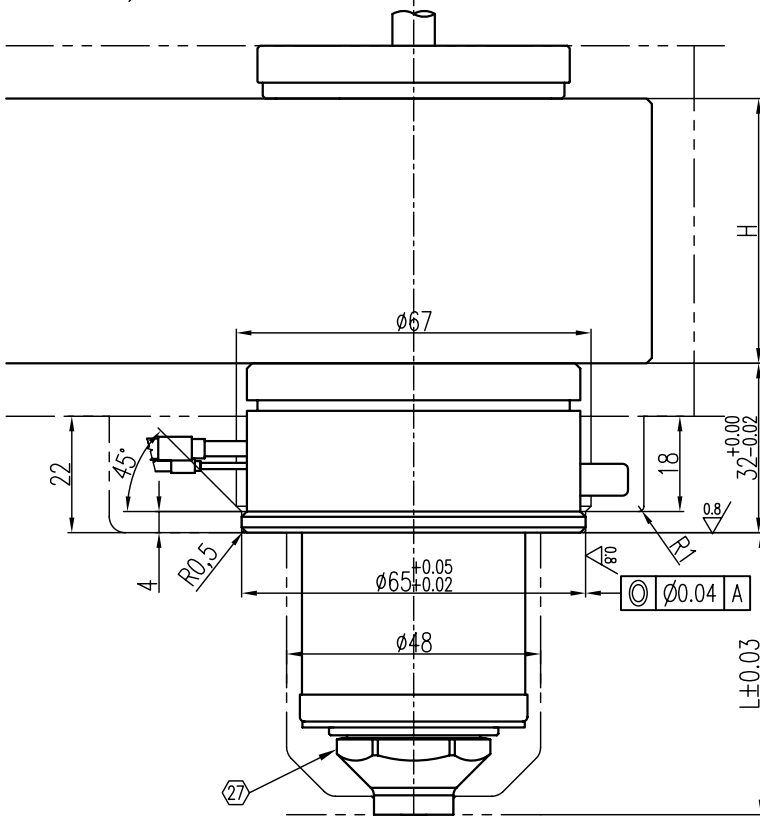
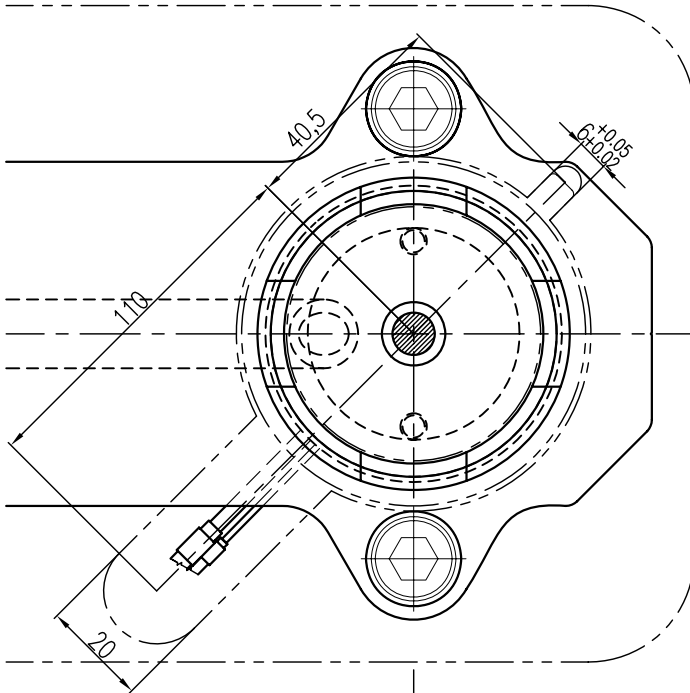
L	H	A	Gate Ø	Land
60 - 500	50, 55, 60, 65	-	3, 4, 5	15
		10° - 20°	3, 4, 5	20



E-type valve (EV)

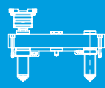
BX

- suited for crystalline materials
- use PE65 pneumatic cylinder or HE45 hydraulic cylinder
- simplifies mold manufacturing



Related to the scope of size (when out of range, special design needed)

L	H	Gate Ø	Land
50 - 500	50, 55, 60, 65	3	4,5
		4	4,5
		5	4,5

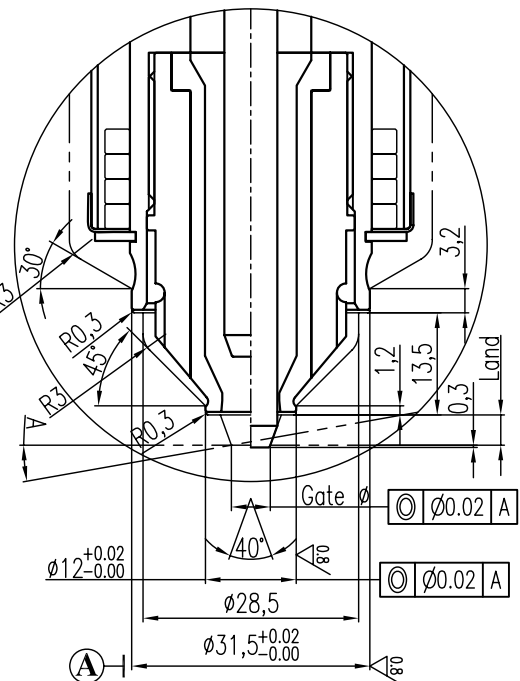
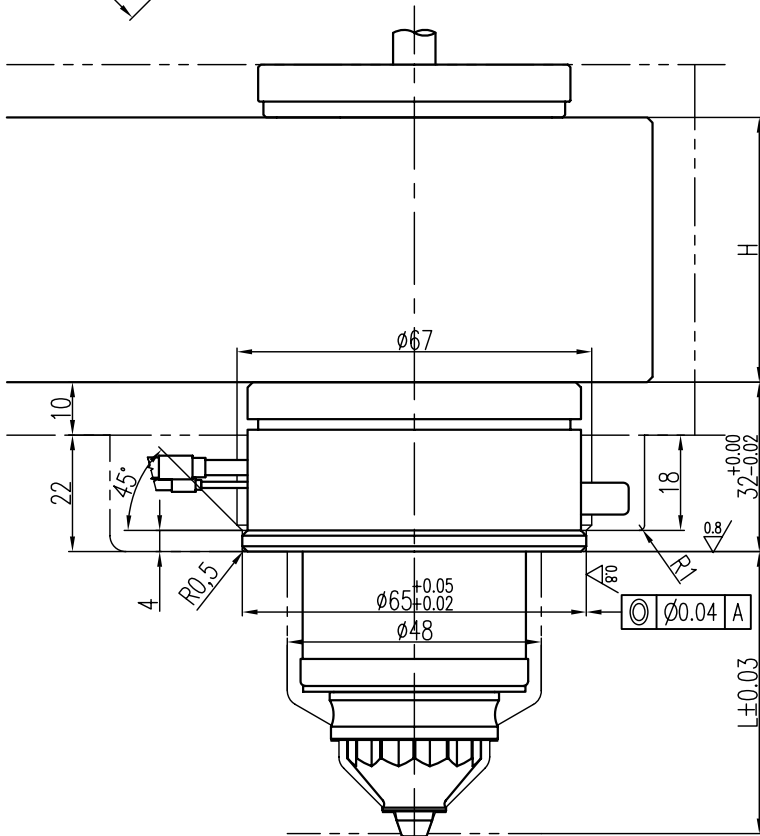
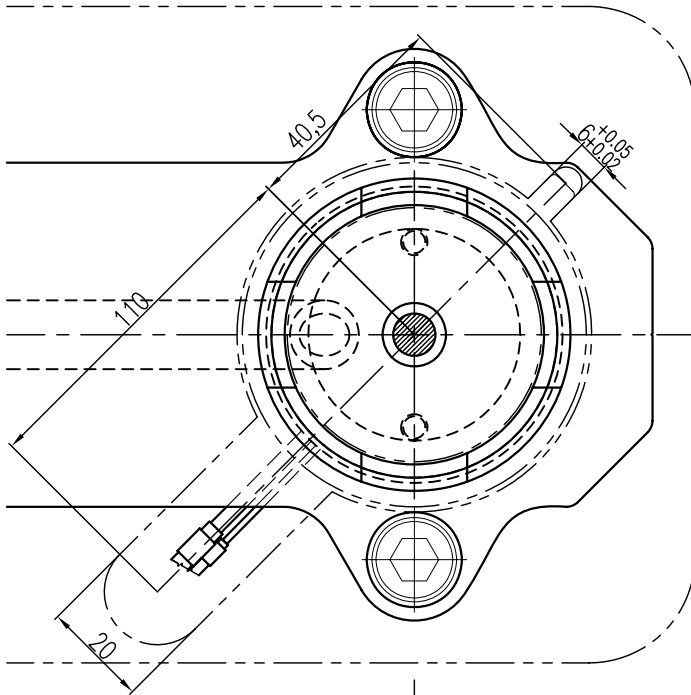


BX

Bi-Met W-valve (WV)

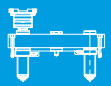


- suited for low processing temperature amorphous and semi-crystalline materials
- use PE65 pneumatic cylinder or HE45 hydraulic cylinder
- can be used when $A < 10^\circ$
- especially designed for high friction material



Related to the scope of size (when out of range, special design needed)

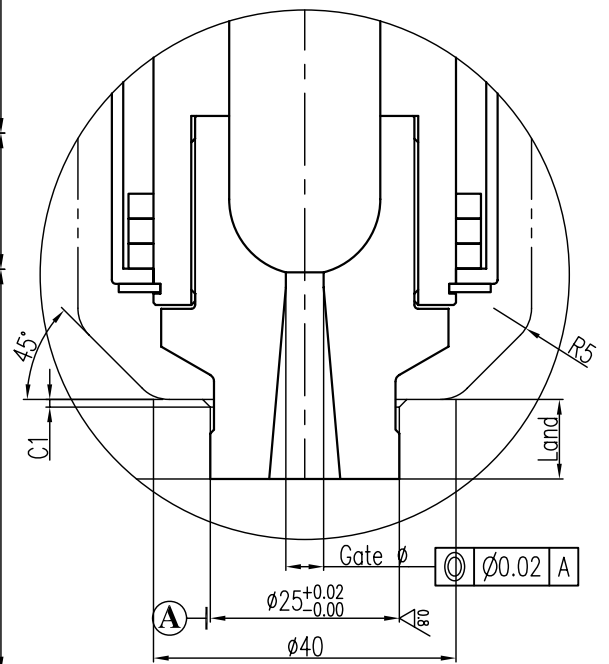
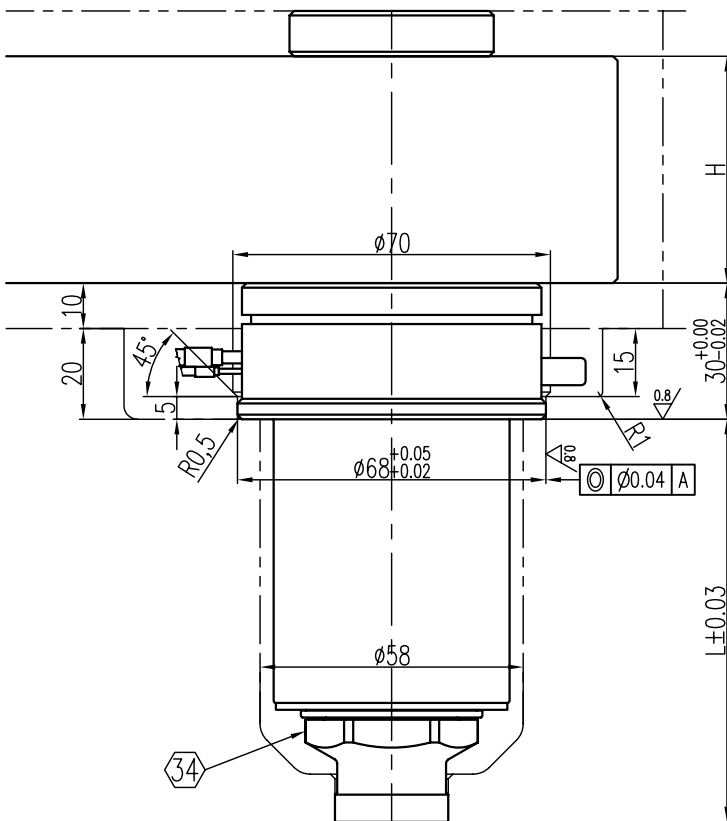
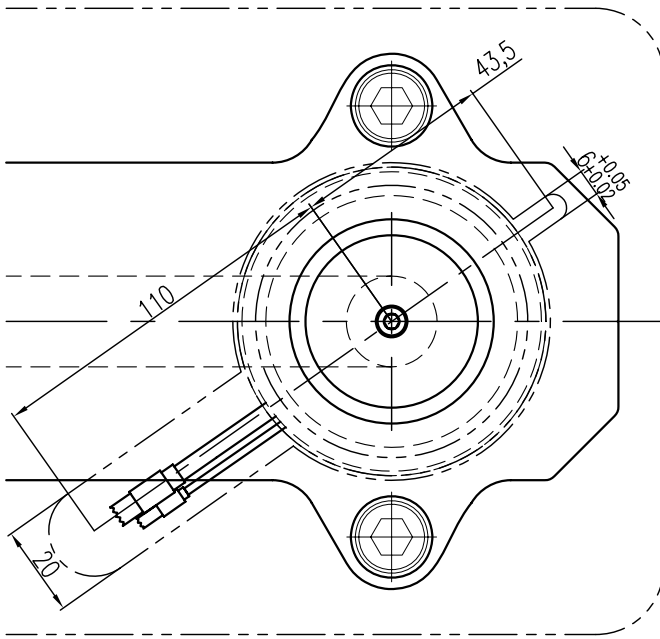
L	H	A	Gate Ø	Land
60 - 500	50, 55, 60, 65	0° - 10°	3	4
			4	4
			5	4



BX

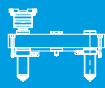
Hot Sprue (HS)

- suited for all materials
- gating into the sub runners
- nozzle profile adjustments by the moldmaker required



Related to the scope of size (when out of range, special design needed)

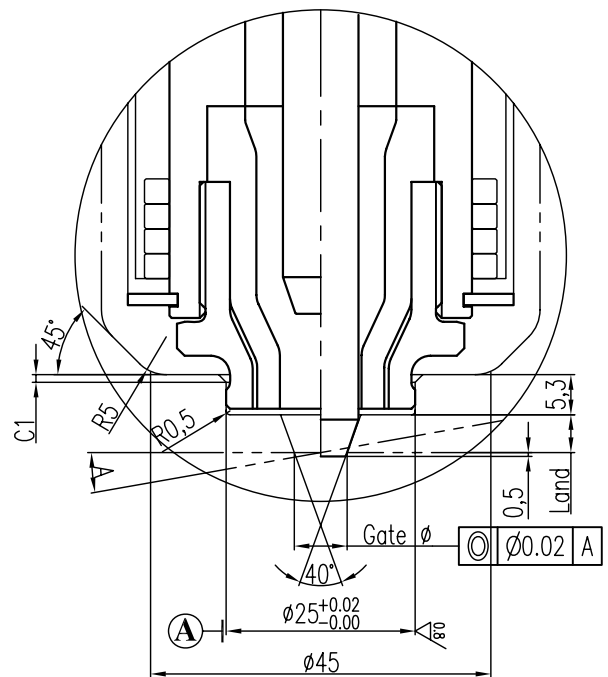
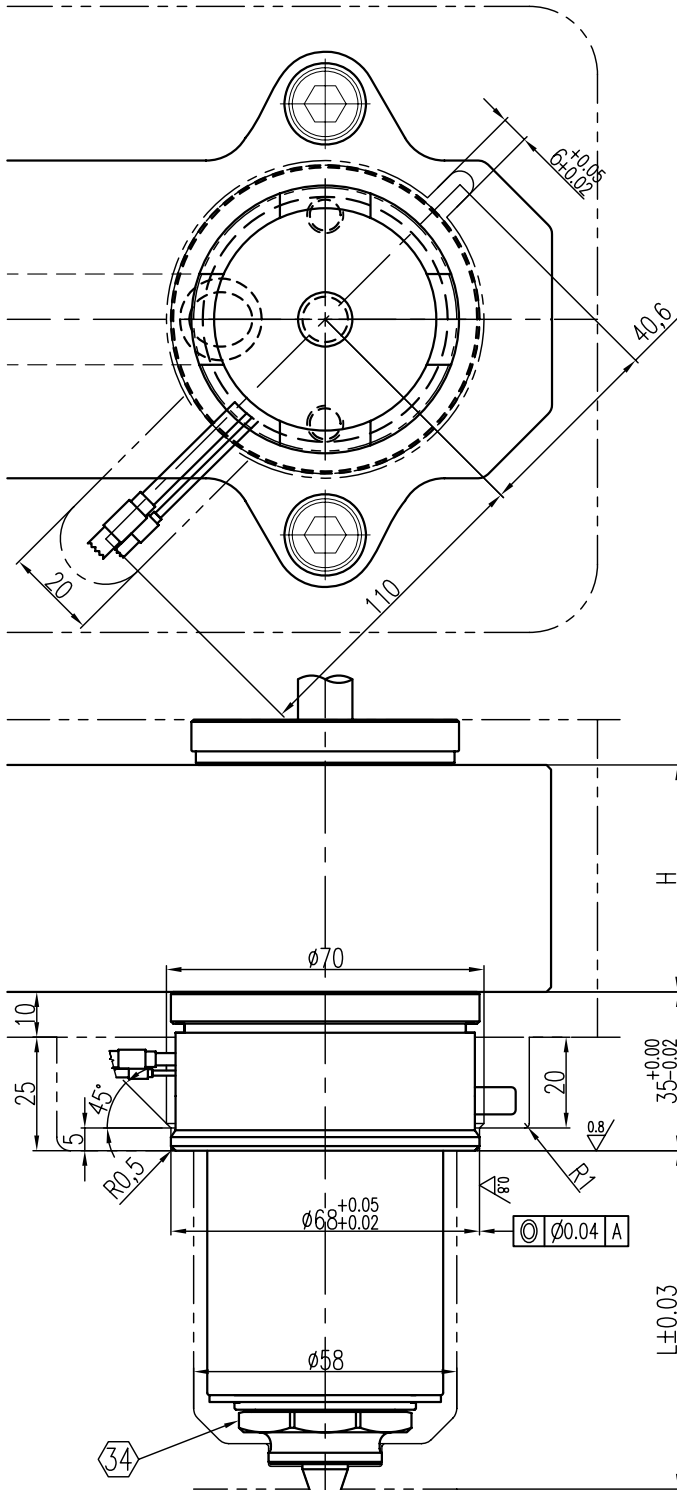
L	H	Gate Ø	Land
60 - 500	50, 55, 60, 65, 70	2 - 6	10,5



BX

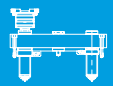
Bi-Met C-type valve (CV)

- suited for all materials
- use PE65 pneumatic cylinder or HE45 hydraulic cylinder
- can be used when $A < 10^\circ$



Related to the scope of size (when out of range, special design needed)

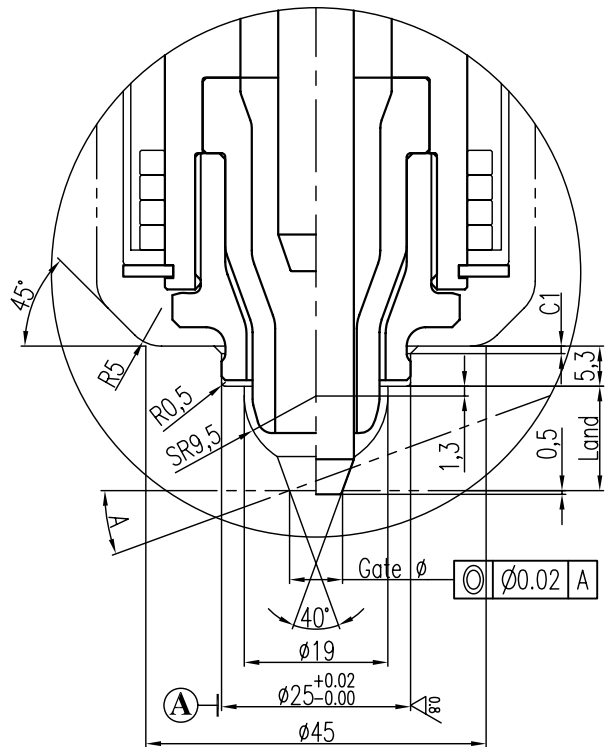
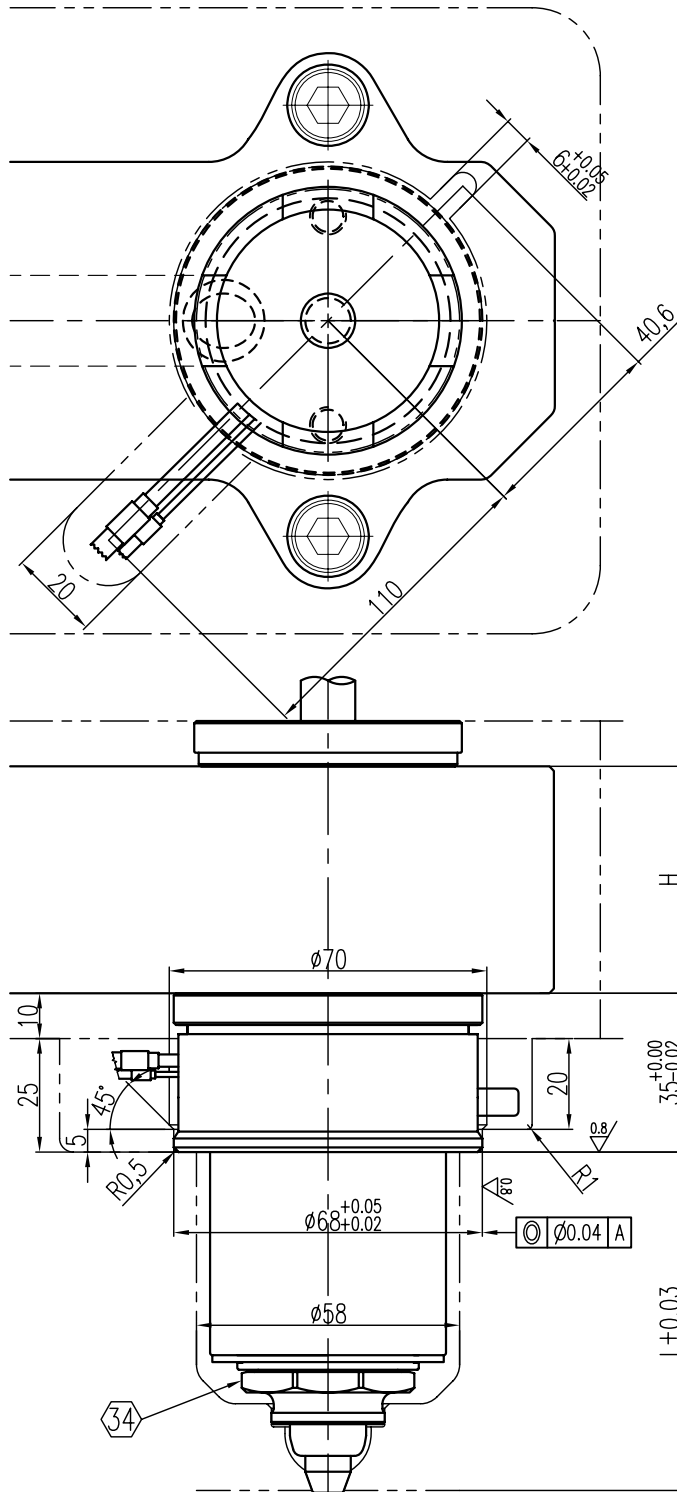
L	H	A	Gate ϕ	Land
60 - 600	50, 55, 60, 65, 70	$0^\circ - 10^\circ$	5	5
			6	5
			7	5



BX

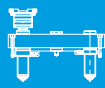
Bi-Met extended C-type valve (CVE)

- suited for all materials
- use PE65 pneumatic cylinder or HE45 hydraulic cylinder
- can be used when $A < 20^\circ$



Related to the scope of size (when out of range, special design needed)

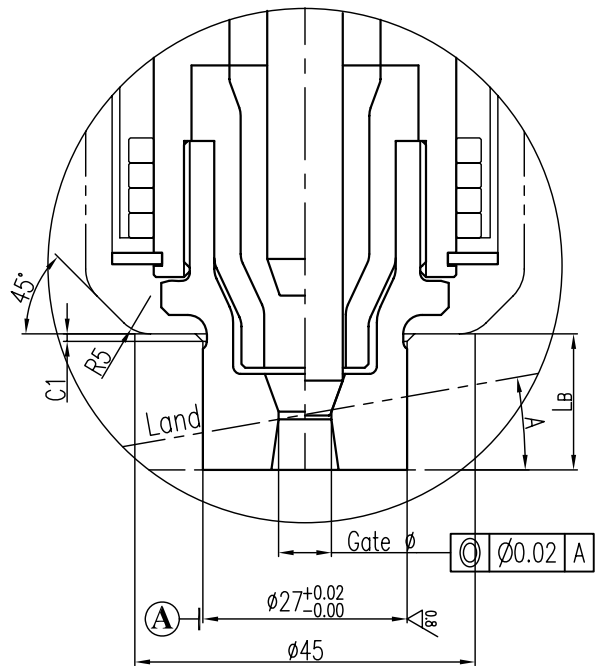
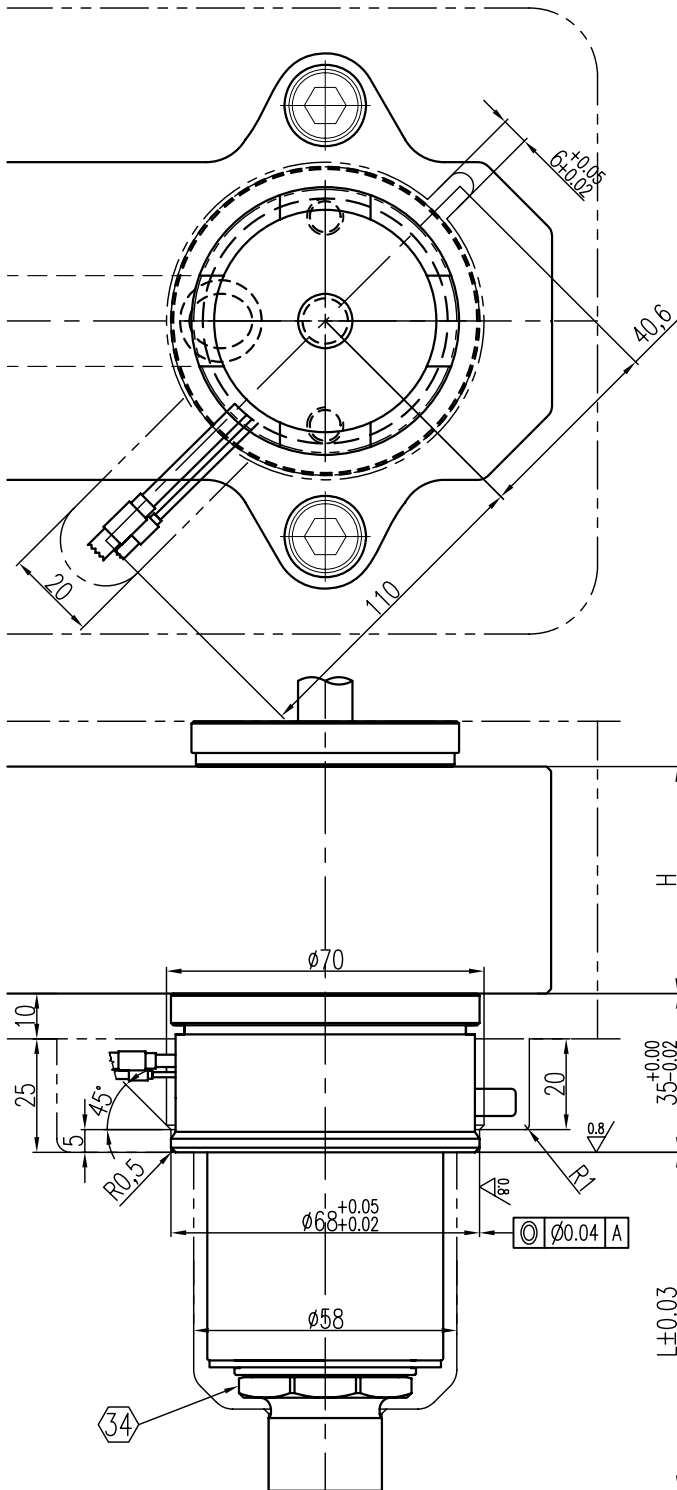
L	H	A	Gate ϕ	Land
60 - 600	50, 55, 60, 65, 70	$0^\circ - 10^\circ$	5, 6, 7	14,0
		$10^\circ - 20^\circ$	5, 6, 7	15,2



BX

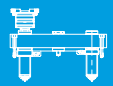
Bi-Met C-valve with bushing (CVB)

- suited for all materials
- use PE65 pneumatic cylinder or HE45 hydraulic cylinder
- can be used when $A < 10^\circ$
- simplifies mold manufacturing



Related to the scope of size (when out of range, special design needed)

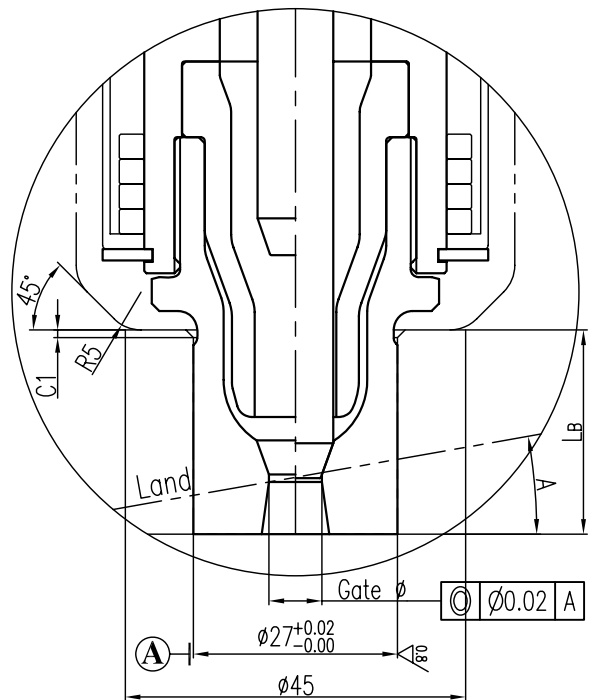
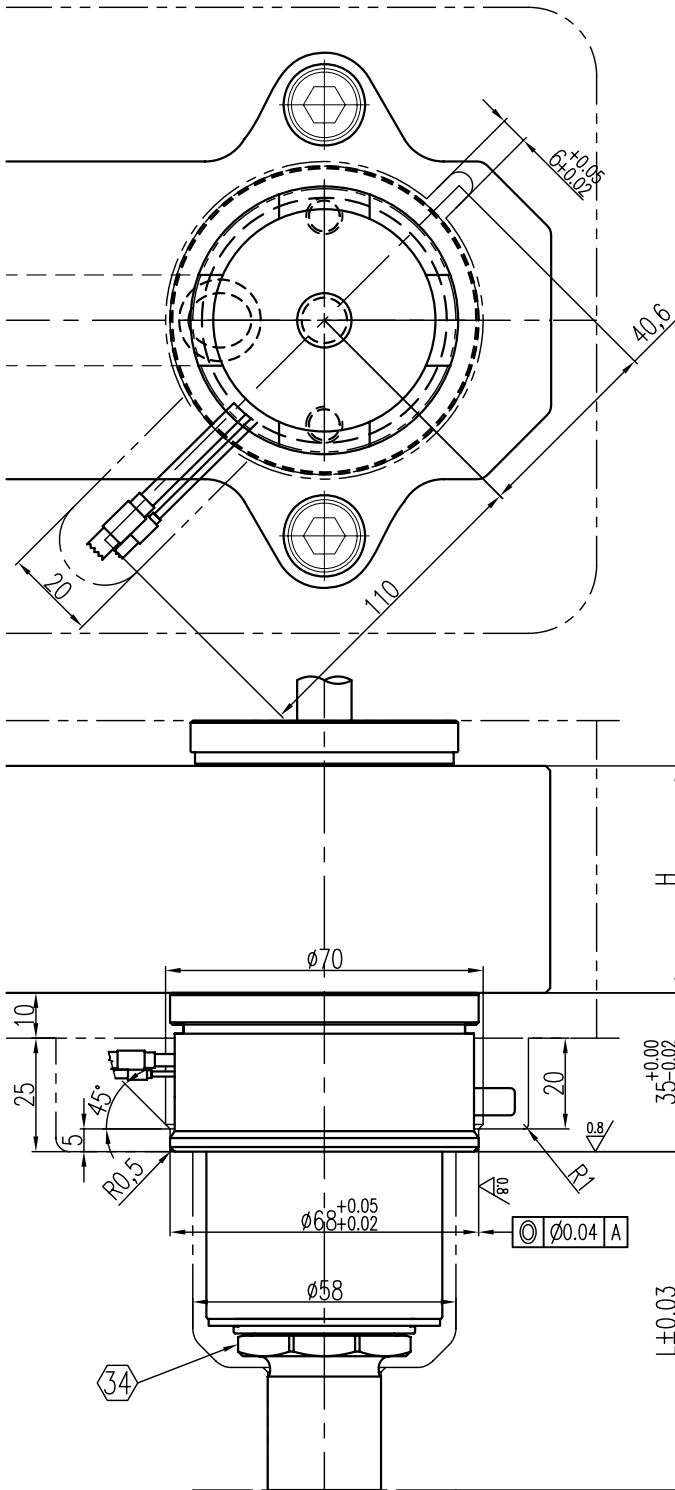
L	H	A	Gate Ø	Land
60 - 600	50, 55, 60, 65, 70	-	5, 6, 7	10, 3
		$0^\circ - 10^\circ$	5, 6, 7	18, 0



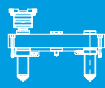
BX

Bi-Met extended C-valve with bushing (CVEB)

- suited for all materials
- use PE65 pneumatic cylinder or HE45 hydraulic cylinder
- can be used when $A < 20^\circ$
- simplifies mold manufacturing



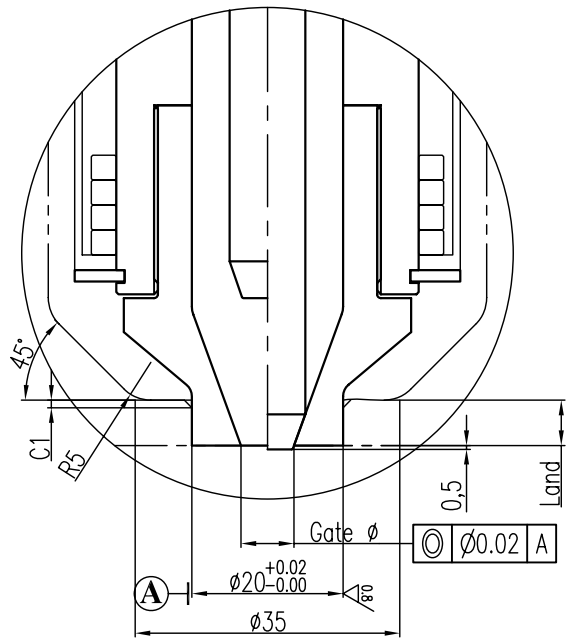
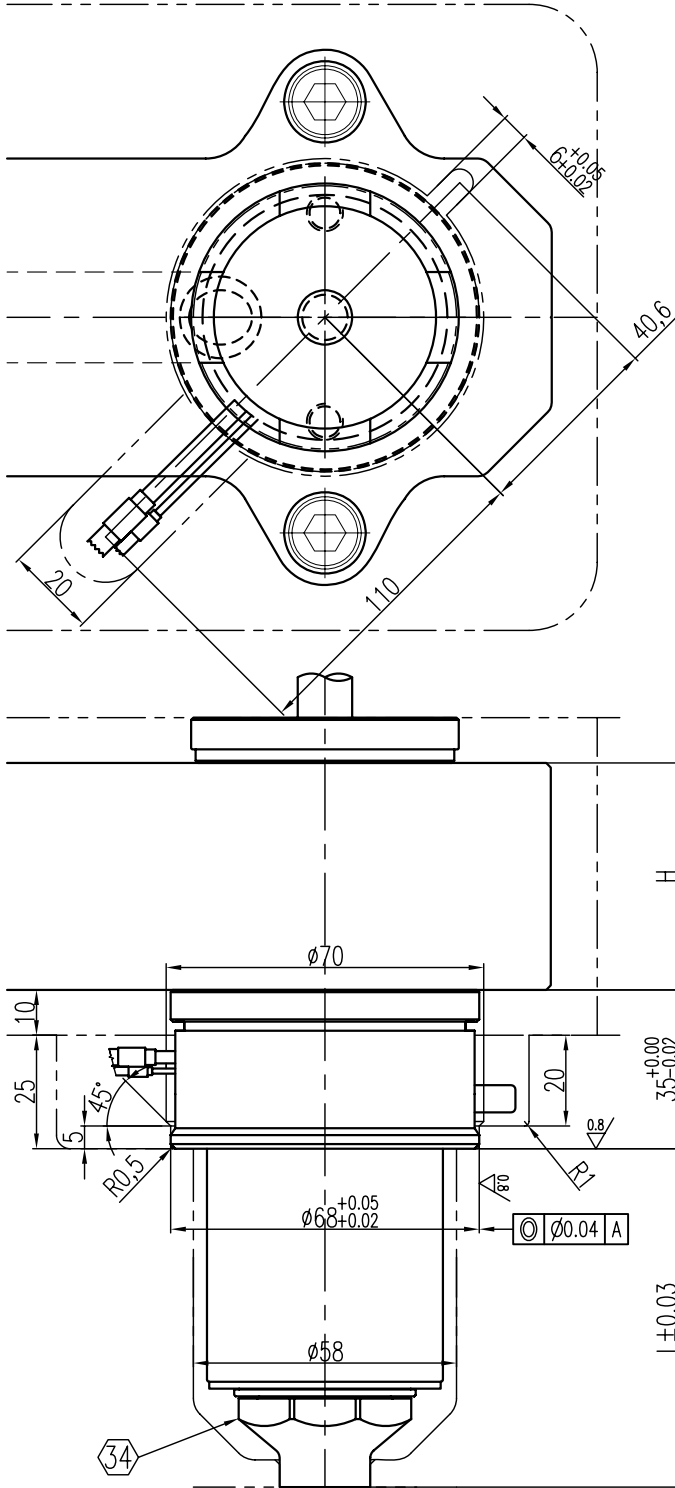
Related to the scope of size (when out of range, special design needed)				
L	H	A	Gate Ø	Land
60 - 600	50, 55, 60, 65, 70	-	5, 6, 7	13,5
		$0^\circ - 20^\circ$	5, 6, 7	27,0



BX

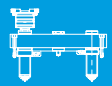
E-type valve (EV)

- suited for crystalline materials
- use PE65 pneumatic cylinder or HE45 hydraulic cylinder
- simplifies mold manufacturing



Related to the scope of size (when out of range, special design needed)

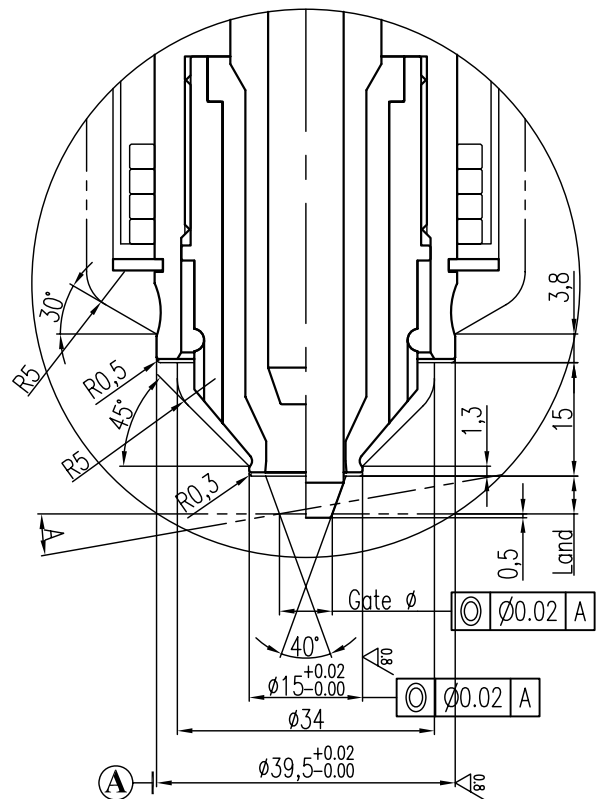
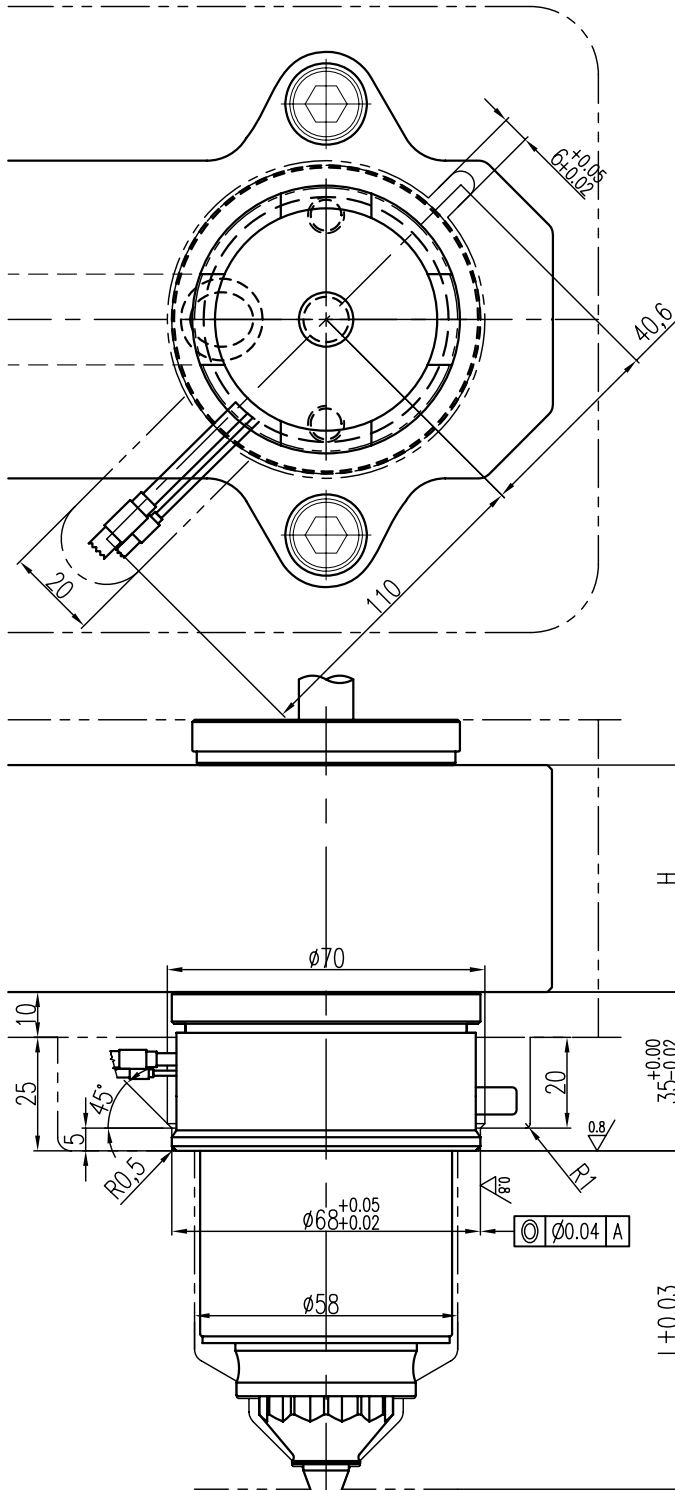
L	H	Gate Ø	Land
60 - 600	50, 55, 60, 65, 70	5	6
		6	6
		7	6



Bi-Met extended W-valve (WV)

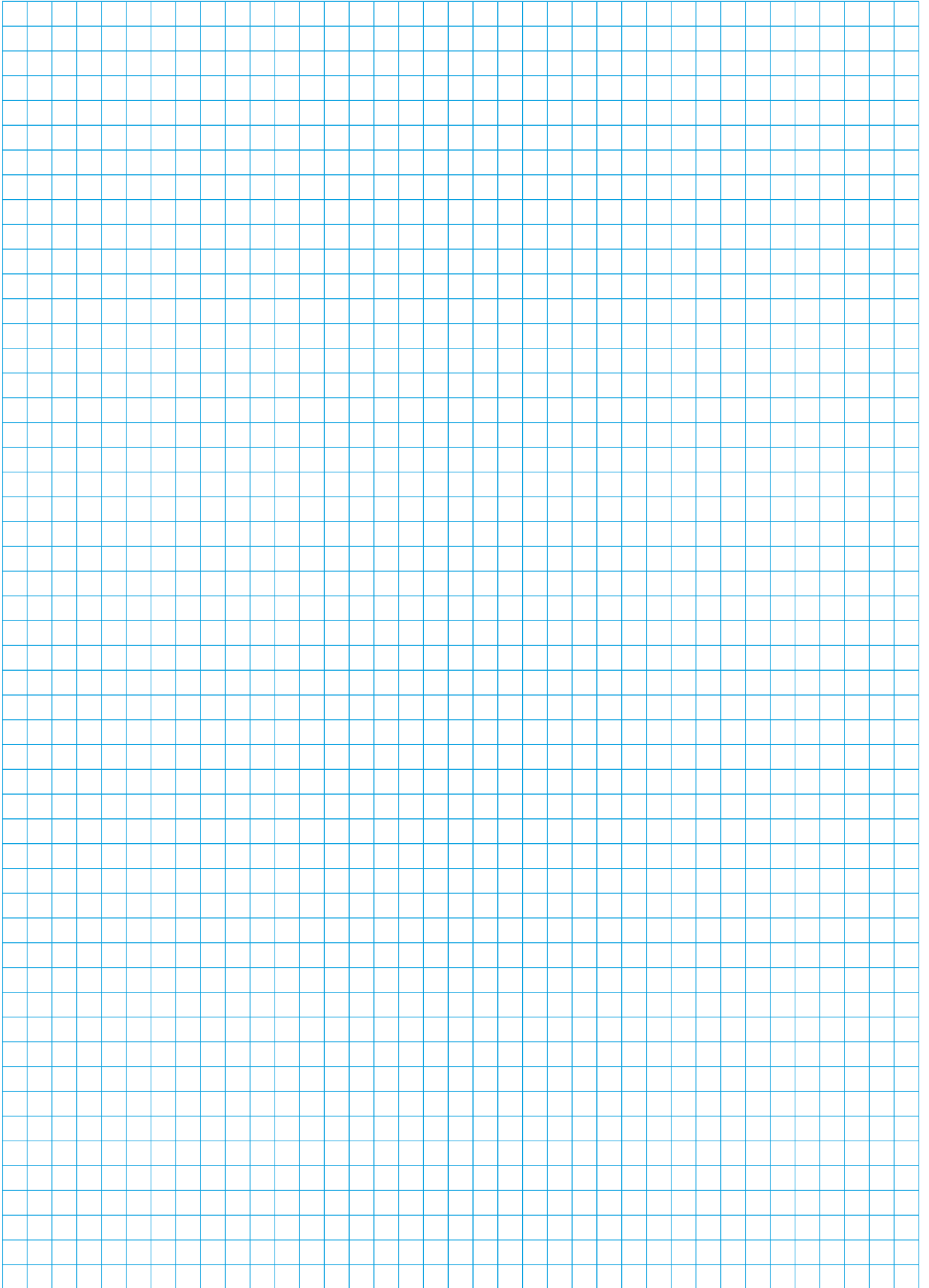
BX

- suited for low processing temperature amorphous and semi-crystalline materials
- use PE65 pneumatic cylinder or HE45 hydraulic cylinder
- can be used when $A < 10^\circ$
- especially designed for high friction material



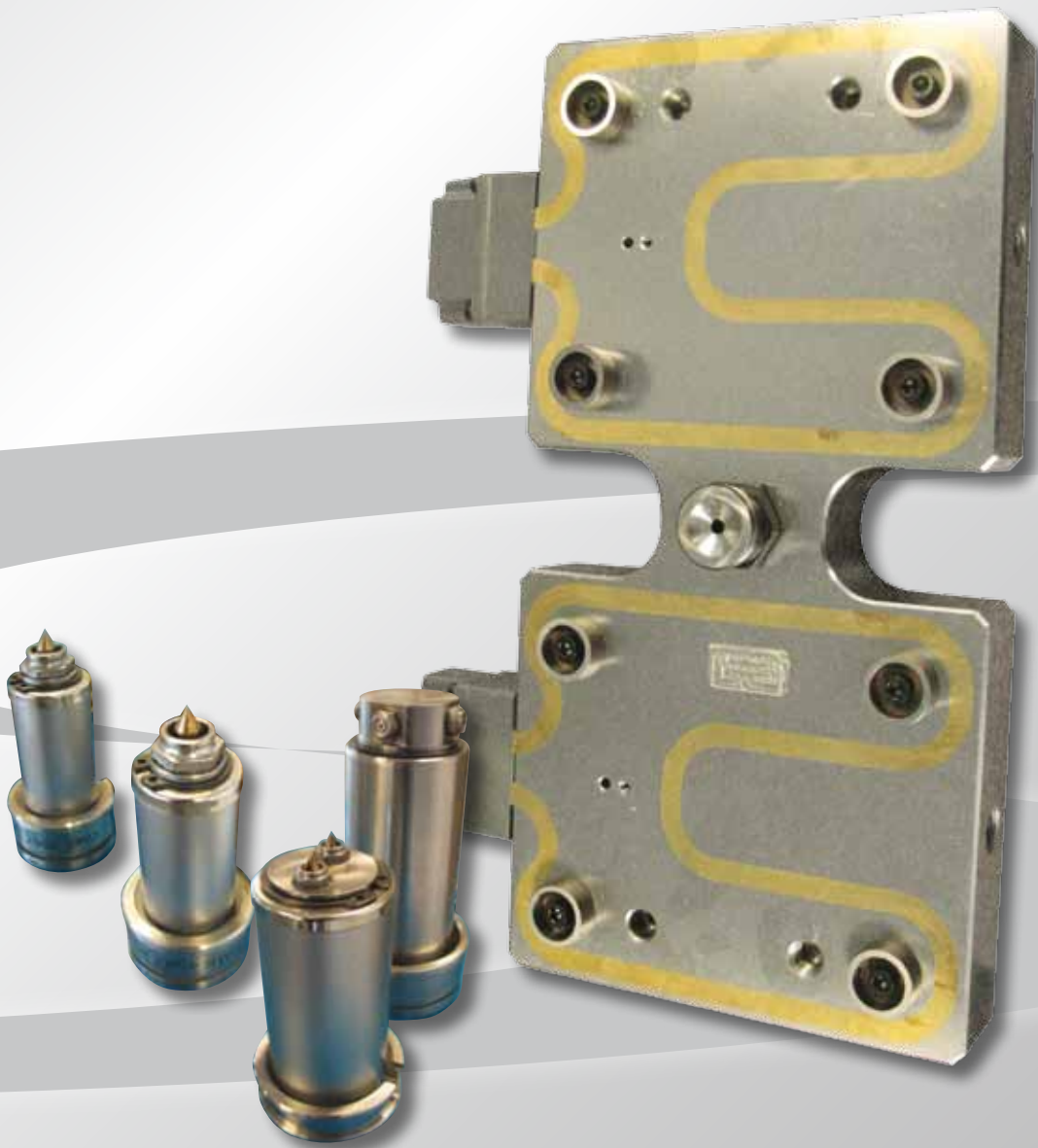
Related to the scope of size (when out of range, special design needed)

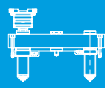
L	H	A	Gate ϕ	Land
60 - 600	50, 55, 60, 65, 70	$0^\circ - 10^\circ$	5	5
			6	5
			7	5





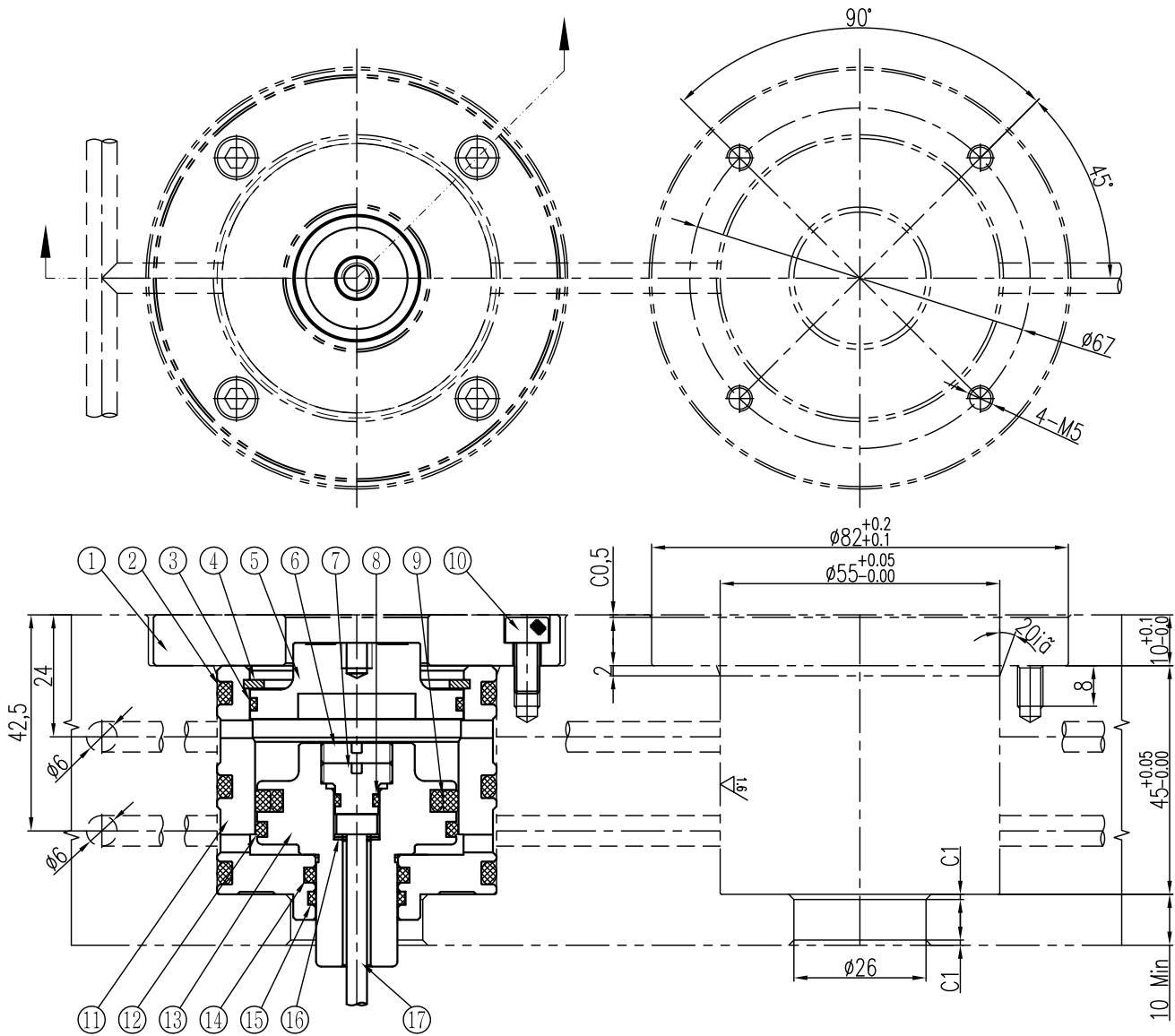
Spare Parts





PE4010

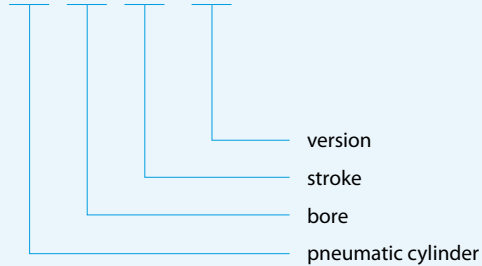
Valve actuator

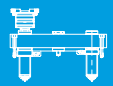


	Quantity	Description
1	1	Cylinder cover
2	3	O-ring
3	1	O-ring
4	1	Retainer ring
5	1	Cylinder top
6	1	Piston screw
7	1	Piston screw
8	1	O-ring
9	1	Glide ring
10	4	Hexagon screw
11	1	Cylinder housing
12	1	O-ring
13	1	Piston
14	1	O-ring
15	1	Guidance ring
16	1	Register Washer
17	1	Valve pin

- used for BX20 series nozzle only

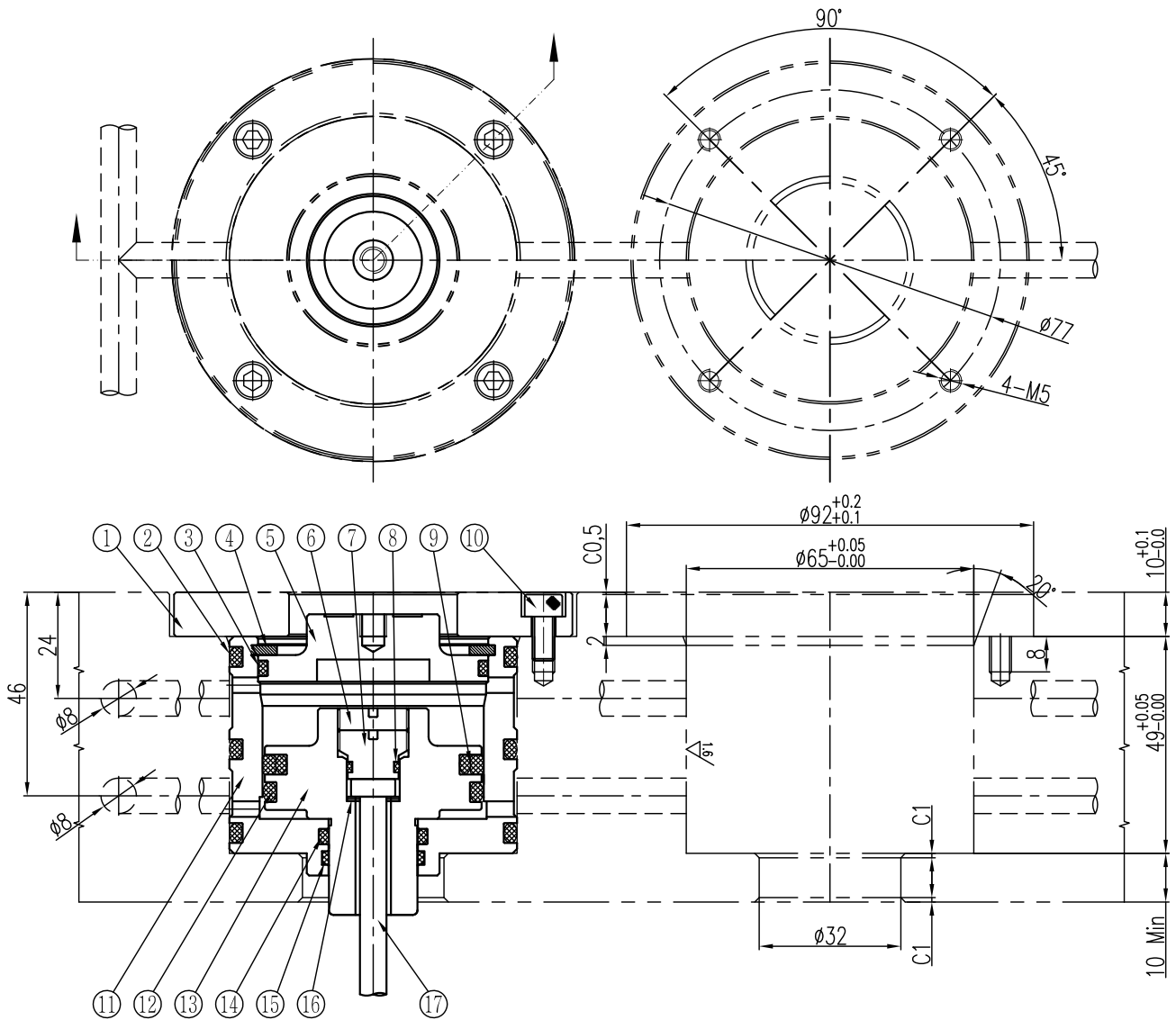
PE 40 10 - 01





Valve actuator

PE5010

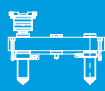


	Quantity	Description
1	1	Cylinder cover
2	3	O-ring
3	1	O-ring
4	1	Retainer ring
5	1	Cylinder top
6	1	Piston screw
7	1	Piston screw
8	1	O-ring
9	1	Glide ring
10	4	Hexagon screw
11	1	Cylinder housing
12	1	O-ring
13	1	Piston
14	1	O-ring
15	1	Guidance ring
16	1	Register Washer
17	1	Valve pin

- used for BX20 & BX25 series nozzle

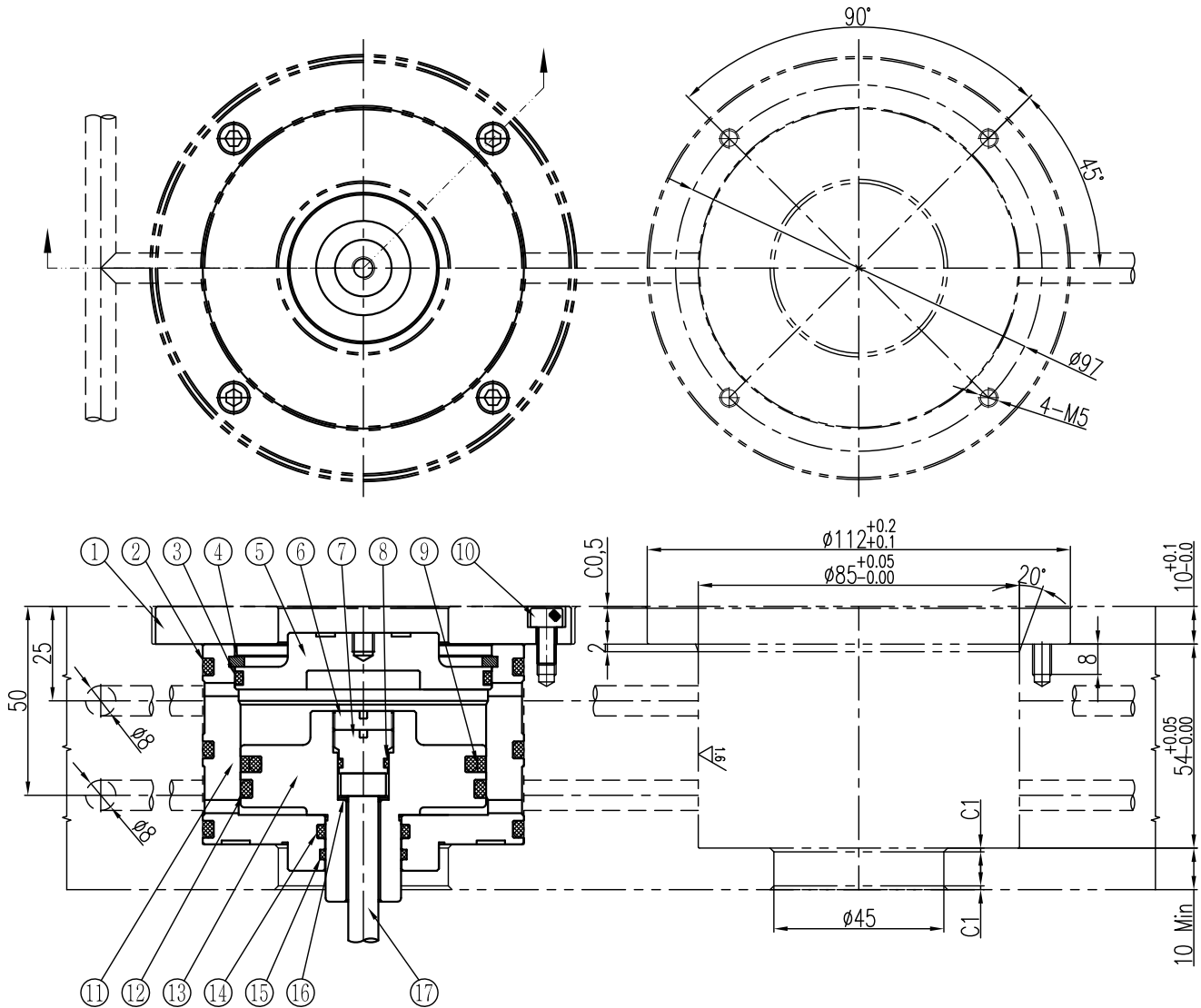
PE 50 10 - 01

version
stroke
bore
pneumatic cylinder



PE6510

Valve actuator

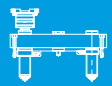


	Quantity	Description
1	1	Cylinder cover
2	3	O-ring
3	1	O-ring
4	1	Retainer ring
5	1	Cylinder top
6	1	Piston screw
7	1	Piston screw
8	1	O-ring
9	1	Glide ring
10	4	Hexagon screw
11	1	Cylinder housing
12	1	O-ring
13	1	Piston
14	1	O-ring
15	1	Guidance ring
16	1	Register Washer
17	1	Valve pin

- used for BX25, BX32 & BX40 series nozzle

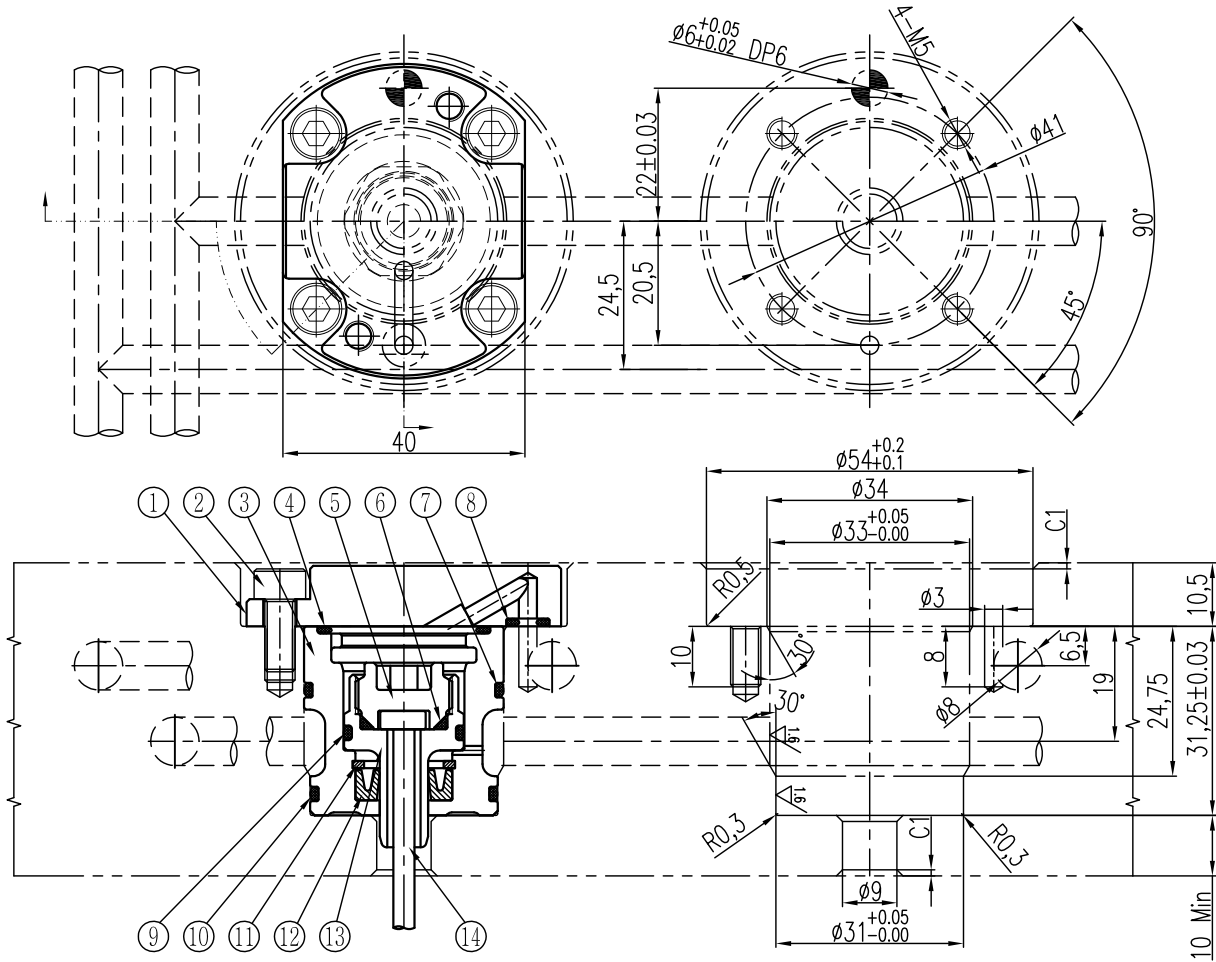
PE 65 10 - 01

- version
- stroke
- bore
- pneumatic cylinder



Valve actuator

HE2008



	Quantity	Description
1	1	Cylinder Cover
2	4	Hexagon screw
3	1	Cylinder Housing
4	1	O-ring
5	1	Piston cover
6	1	O-ring
7	1	O-ring
8	1	O-ring
9	1	O-ring
10	1	O-ring
11	1	Retainer ring
12	1	Piston rod seal
13	1	Piston
14	1	Valve pin

- used for BX20 & BX25 series nozzle
- stroke: 4mm - 8mm

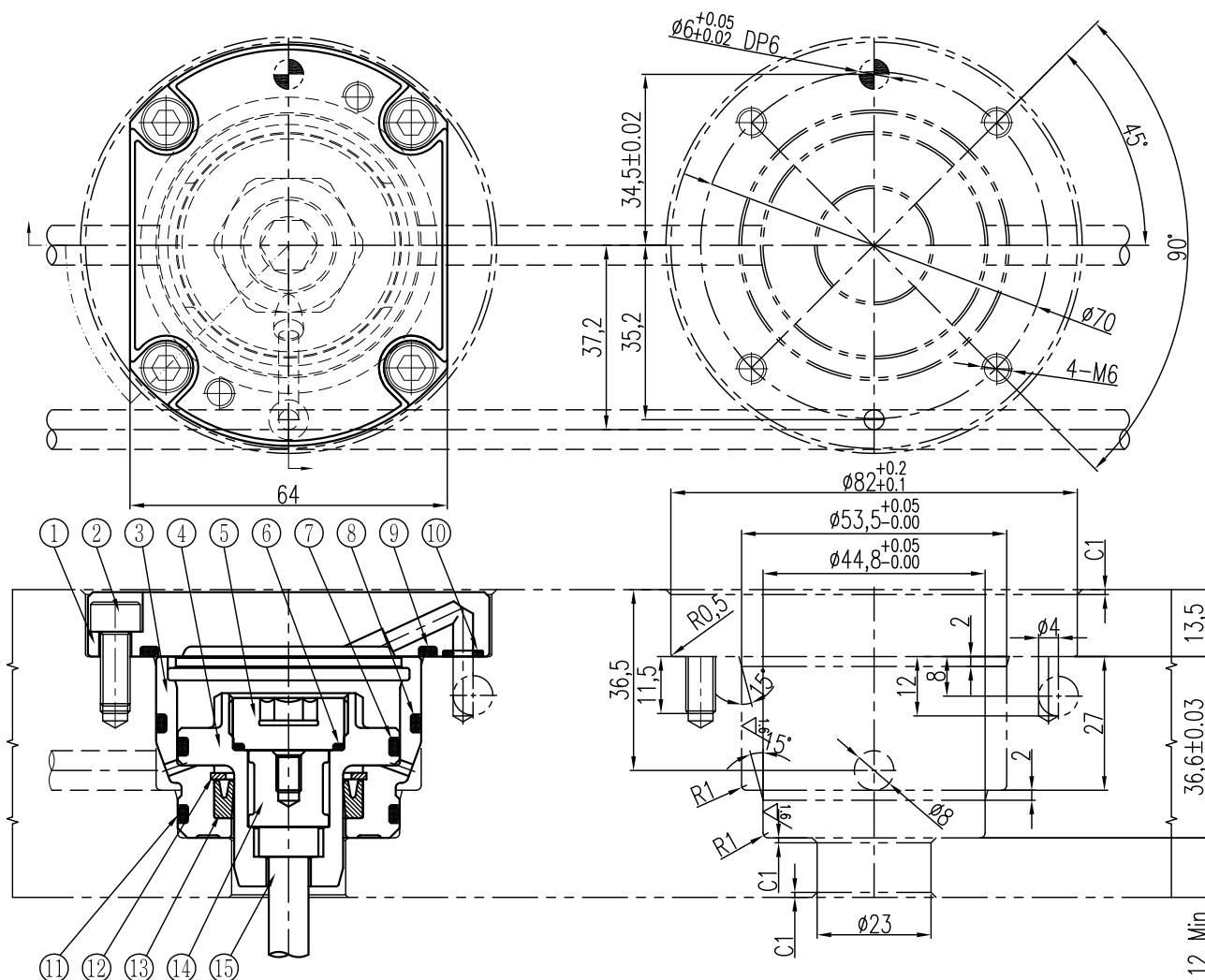
HE 20 08 - 01

HE: hydraulic cylinder
 20: bore
 08: max stroke
 01: version



HE4510

Valve actuator

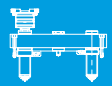


	Quantity	Description
1	1	Cylinder Cover
2	4	Hexagon screw
3	1	Cylinder Housing
4	1	Piston
5	1	Piston cover
6	1	O-ring
7	1	O-ring
8	1	O-ring
9	1	O-ring
10	1	O-ring
11	1	O-ring
12	1	Retainer ring
13	1	Piston rod seal
14	1	Spacer
15	1	Valve pin

- used for BX25, BX32 & BX40 series nozzle
- stroke: 6mm - 10mm

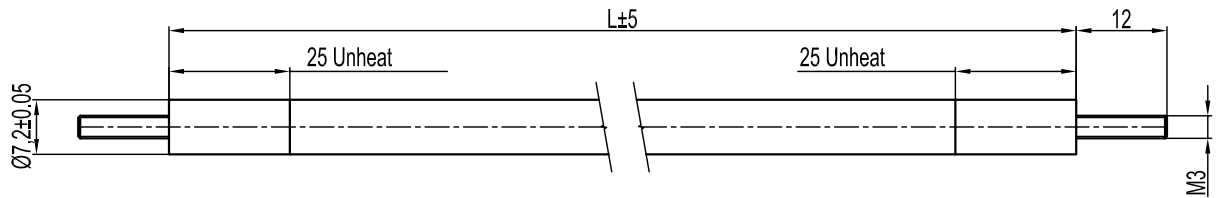
HE 45 10 - 01

HE: hydraulic cylinder
 45: bore
 10: max stroke
 01: version



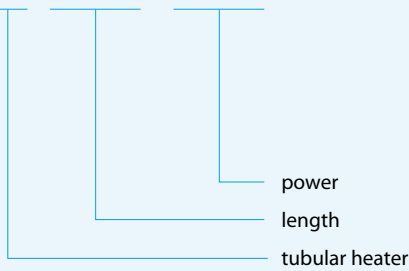
Tubular heater

TH



- used for 230V manifolds
- 25mm of unheated zone at both ends

TH 0250L 0350W

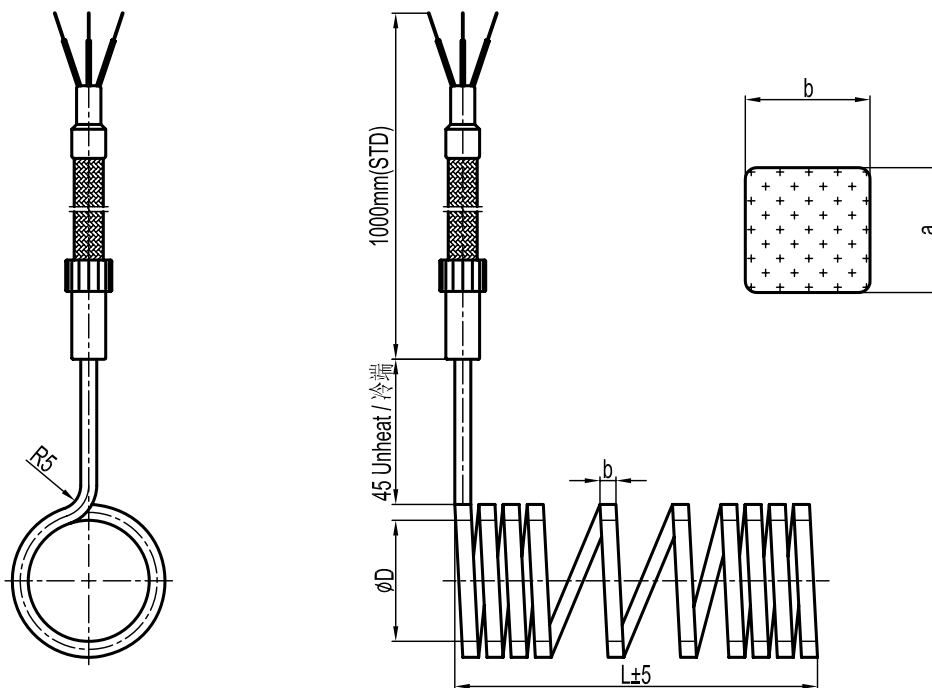


REF
TH0250L0350W
TH0300L0450W
TH0350L0550W
TH0400L0625W
TH0450L0700W
TH0500L0800W
TH0550L0900W
TH0600L1000W
TH0650L1075W
TH0700L1150W
TH0750L1200W
TH0800L1250W
TH0850L1300W
TH0900L1350W
TH0950L1350W
TH1000L1450W
TH1050L1500W
TH1100L1550W
TH1150L1600W
TH1200L1650W



CHSQ - CHREC

Coil heater



REF
CHREC0200W (250mm)
CHREC0250W (300mm)
CHREC0300W (400mm)
CHREC0400W (500mm)

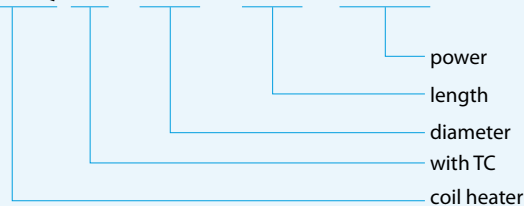
REF
CHSQ0400W / CHSQTC0400W (500mm)
CHSQ0500W / CHSQTC0500W (600mm)
CHSQ0600W / CHSQTC0600W (800mm)
CHSQ0800W / CHSQTC0800W (1000mm)
CHSQ1000W / CHSQTC1000W (1400mm)
CHSQ1250W / CHSQTC1250W (1800mm)
CHSQ1400W / CHSQTC1400W (2000mm)

the number between brackets is the length of the coil heater before bending

- used for 230V manifolds
- 45mm of unheated zone at the wire end

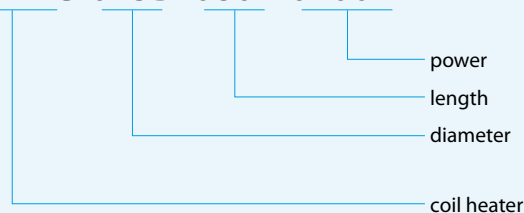
$a=b=3,3$

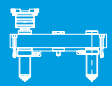
CHSQ TC 020D 080L 0600W



$a=1,8 \quad b=3,2$

CHREC 015D 080L 0400W





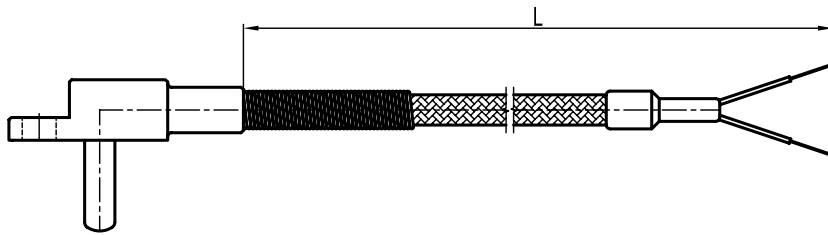
Manifold thermocouple

TC401

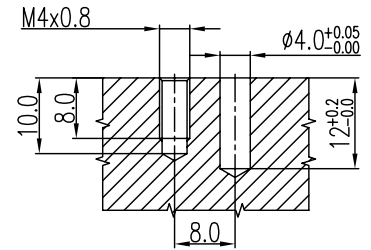
- used for manifolds

TC401 - J - 1000

- length of "L" (mm), standard = 1000mm
- TC type (J or K), standard = J
- Manifold thermocouple



Installation detail



Nozzle thermocouple

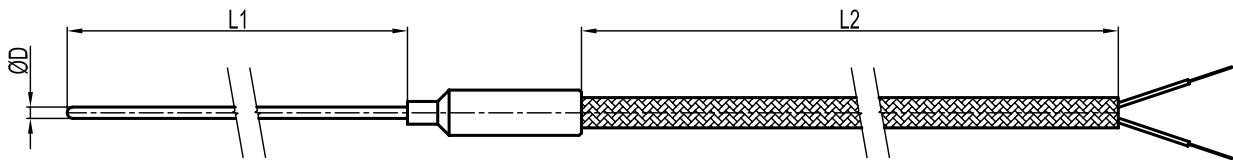
TC601

- used for nozzles

TC601 - J - 1,5 - 050 - 1000

- length of "L2" (mm), standard = 1000mm
- length of "L1"
- diameter of needle, standard = 1,5mm
- TC type (J or K), standard = J
- Nozzle thermocouple

D	L1
1	50, 100, 150, 200
1,5	50, 100, 150, 200, 250, 300



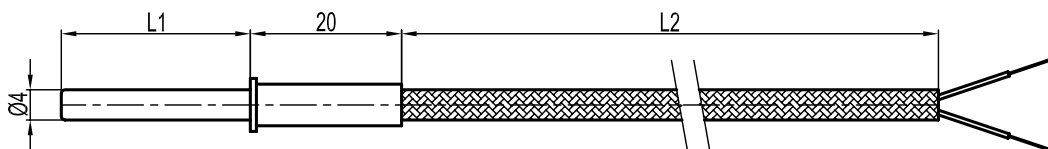
Manifold thermocouple

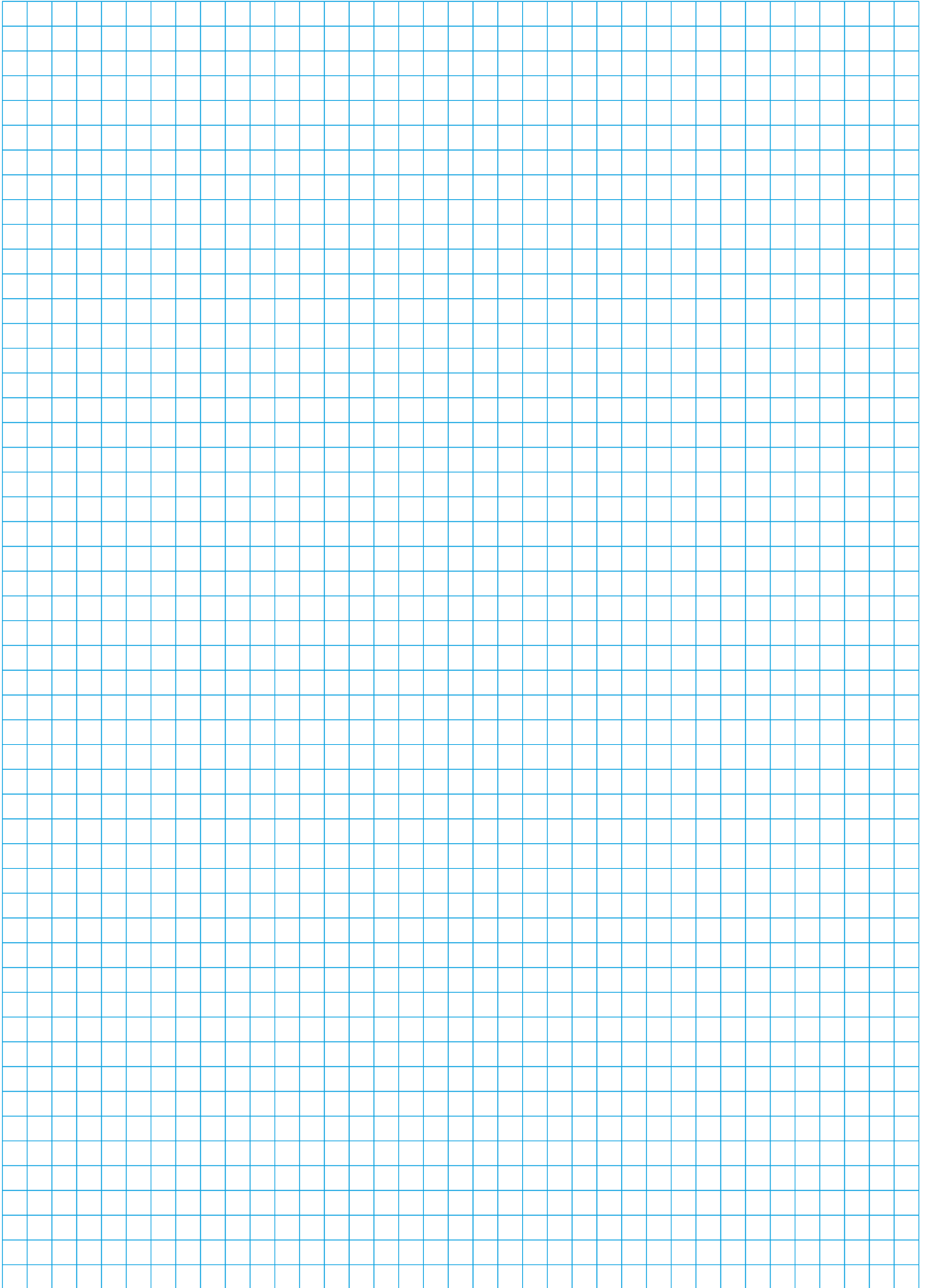
TC701

- used for manifolds with manifold connector

TC701 - J - 025 1000

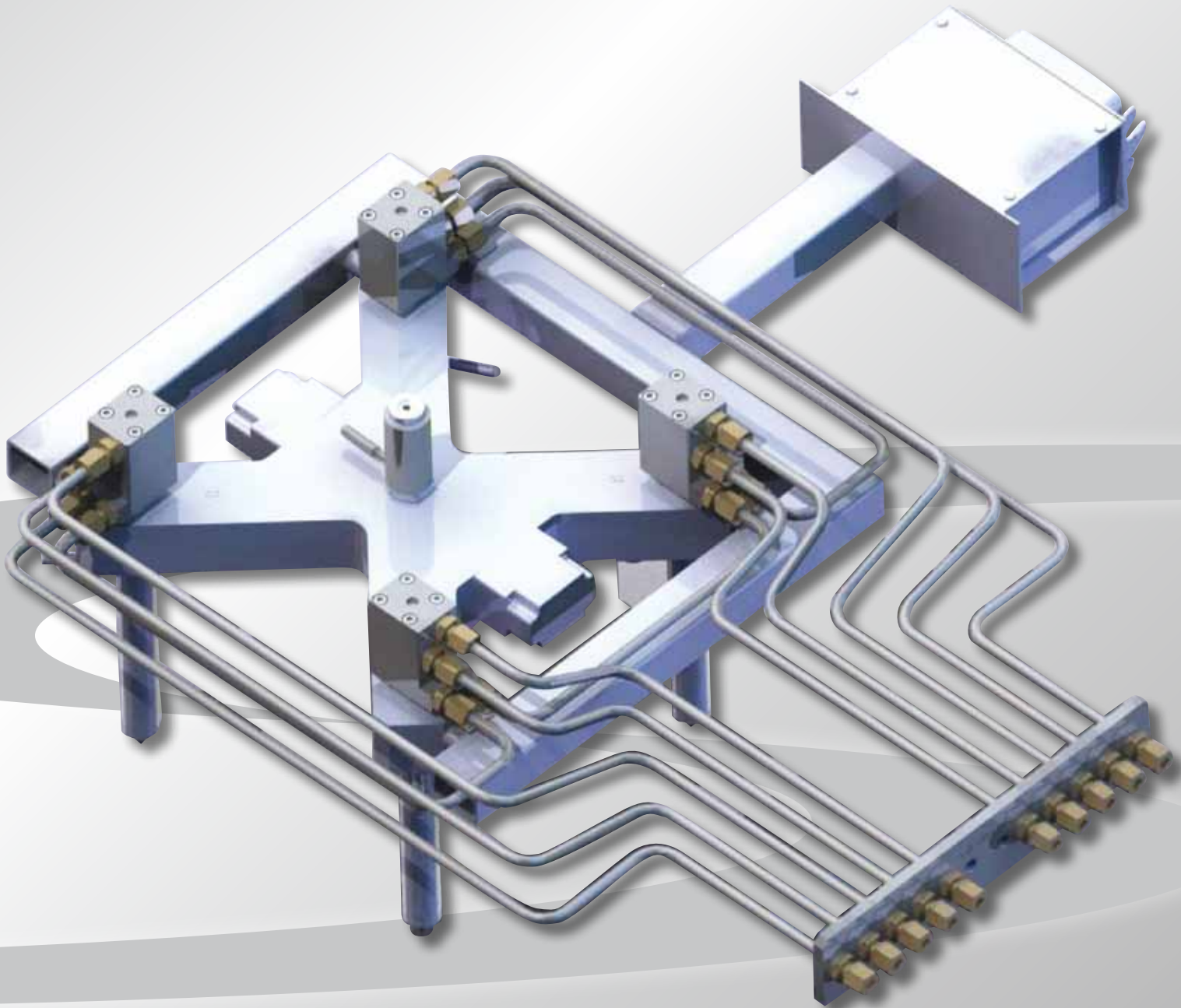
- length of "L2" (mm), standard = 1000mm
- length of "L1" (mm), standard = 25mm
- TC type (J-type only)
- Manifold thermocouple

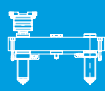






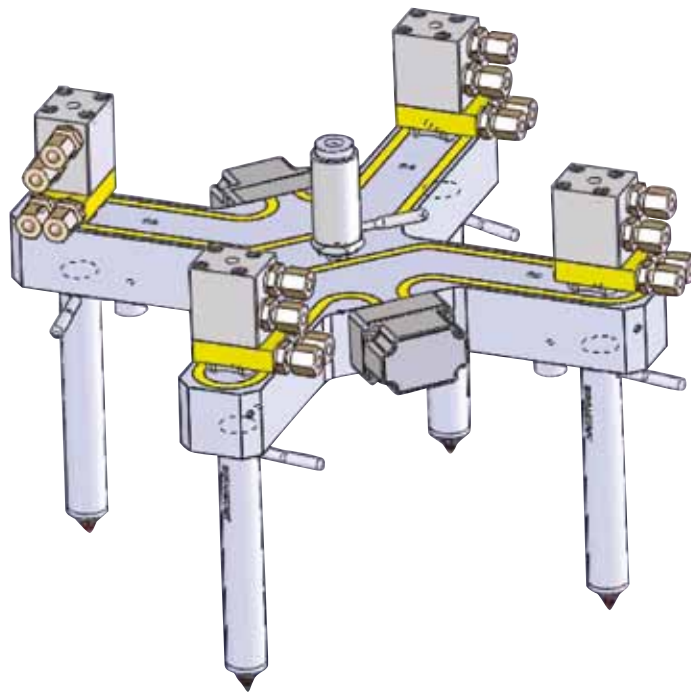
Extended Range





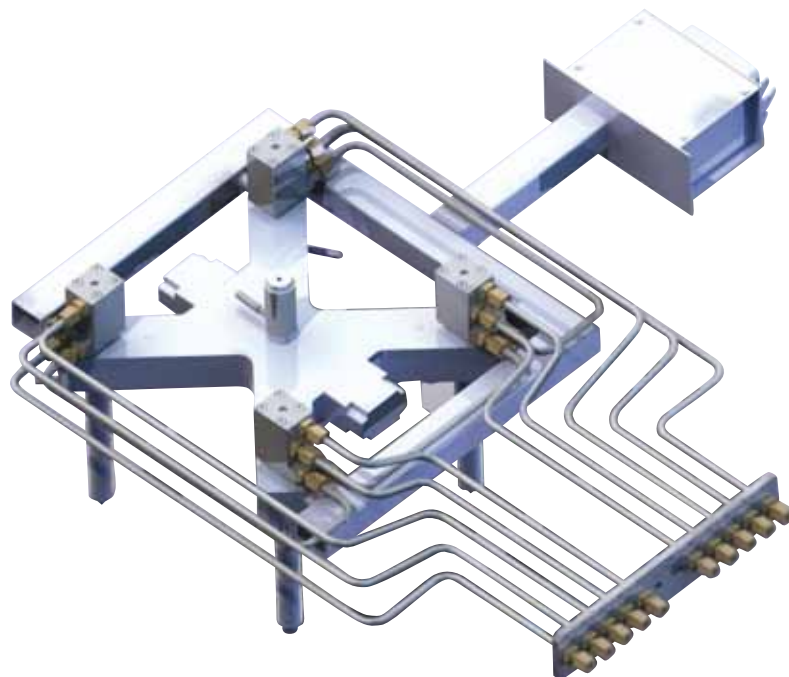
Info

Construction integrated hot runner

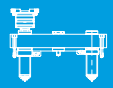


- all mechanical components and the manifold are installed before delivery making onsite installation easier and faster.
- reduces leakage risk between nozzle and manifold
- reduces excessive heat from the nozzle to the mold

System integrated hot runner



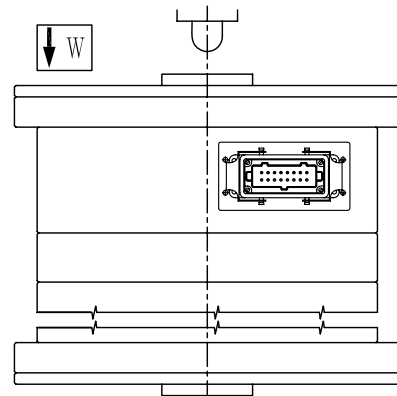
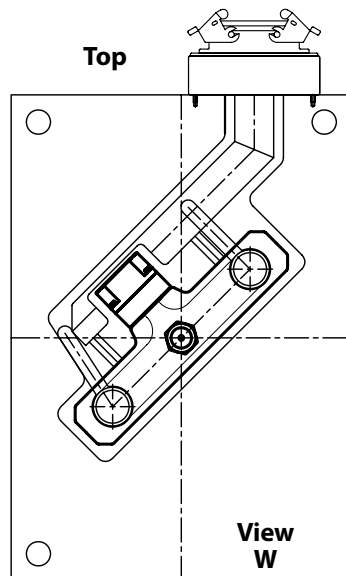
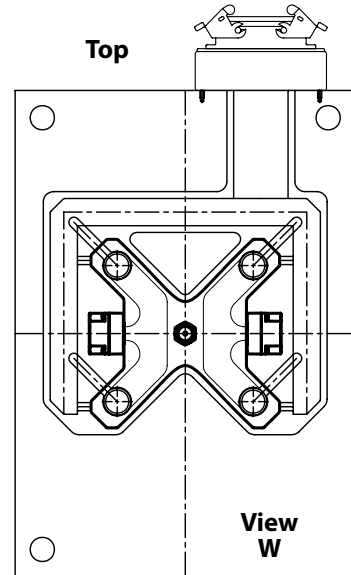
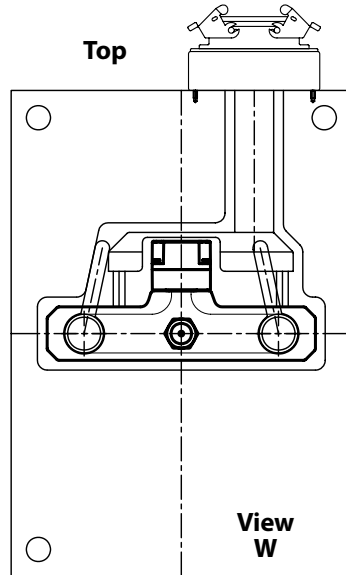
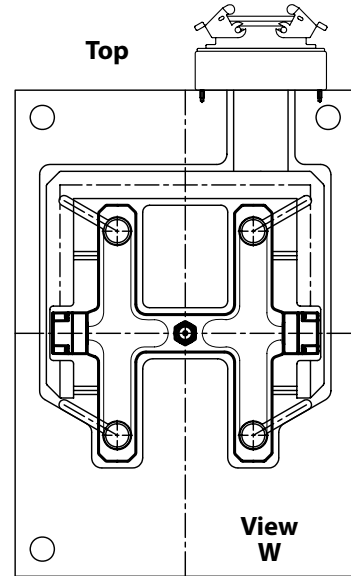
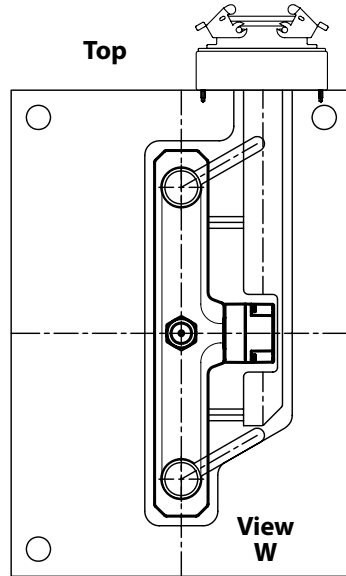
- integrated mechanical structure, electrical wiring and hydraulic system, increasing application security
- quick (dis)assembly of complete system
- avoids leakage between nozzle and manifold
- avoids wiring errors
- no oil or water leakage

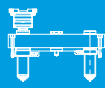


System integrated hot runner

Info

Operator side

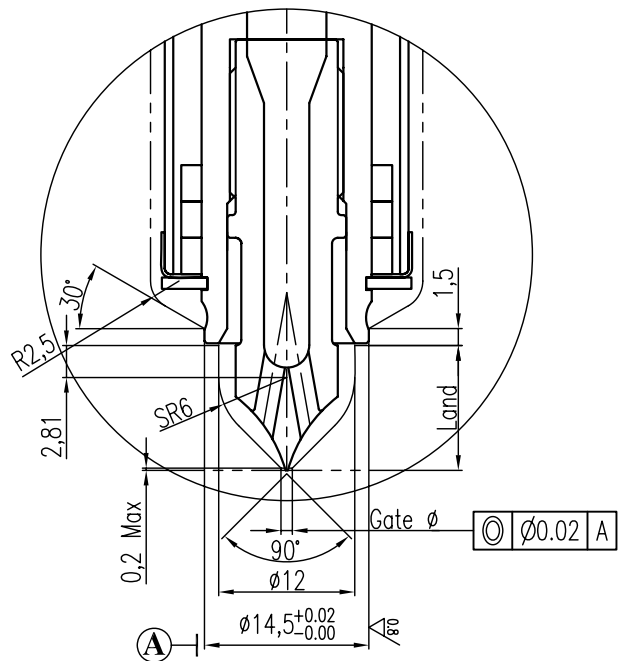
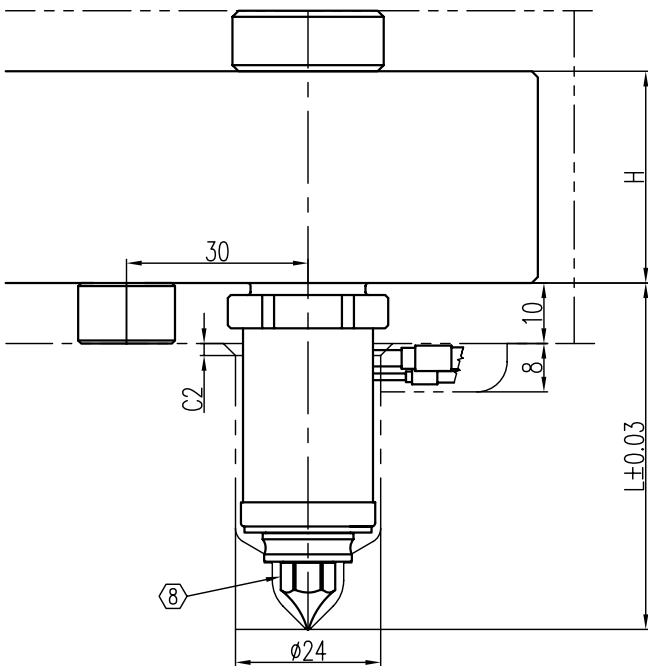
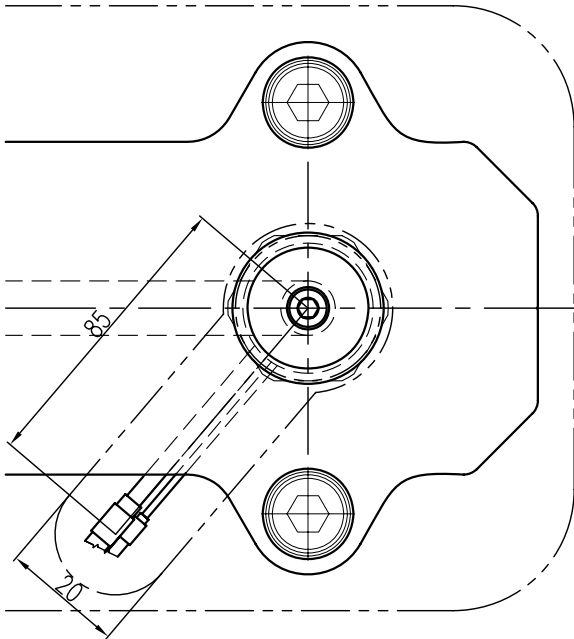




BXS

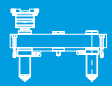
E-type torpedo (ET)

- suited for amorphous and semi-crystalline materials
- not suited for color change



Related to the scope of size (when out of range, special design needed)

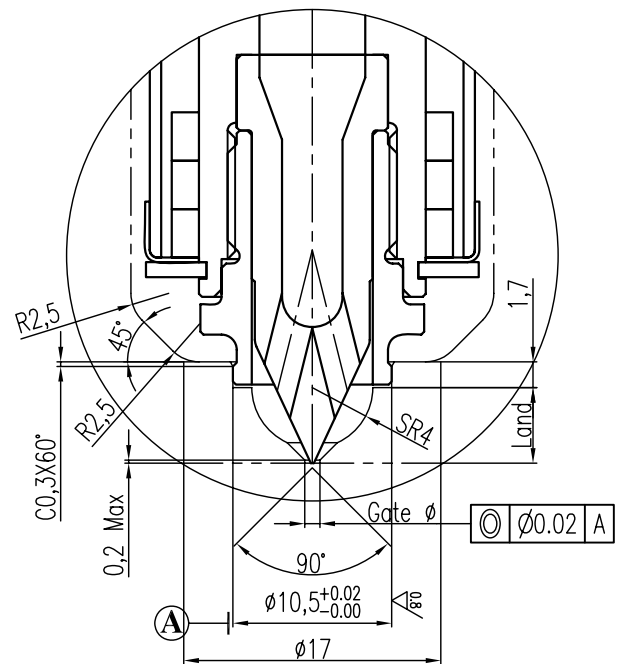
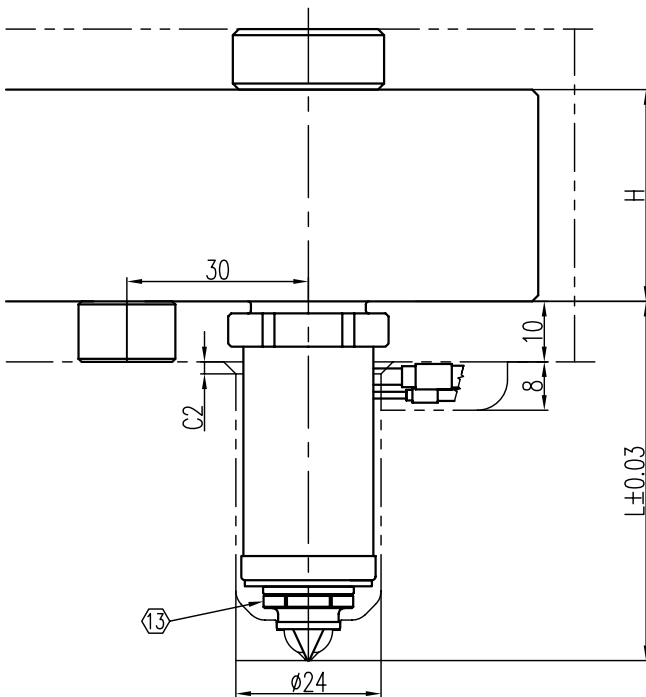
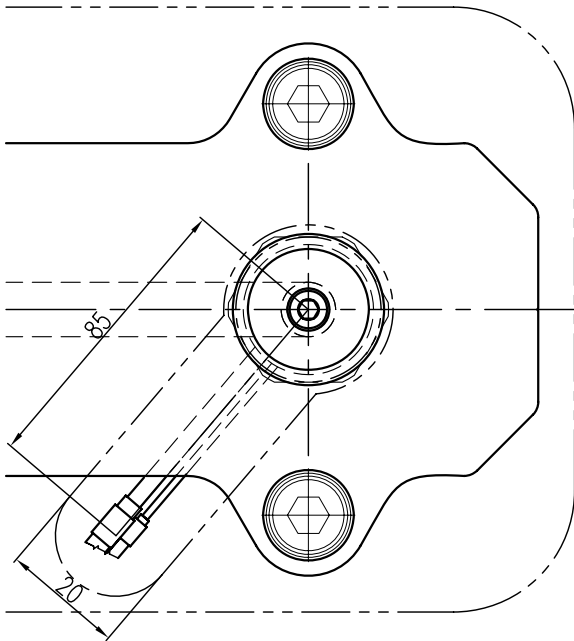
L	H	Gate Ø	Land
40 - 135	40, 45, 50, 55	0,8 - 1,5	11



BXS

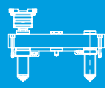
S-type torpedo (ST)

- suited for amorphous and semi-crystalline materials
- not suited for color change



Related to the scope of size (when out of range, special design needed)

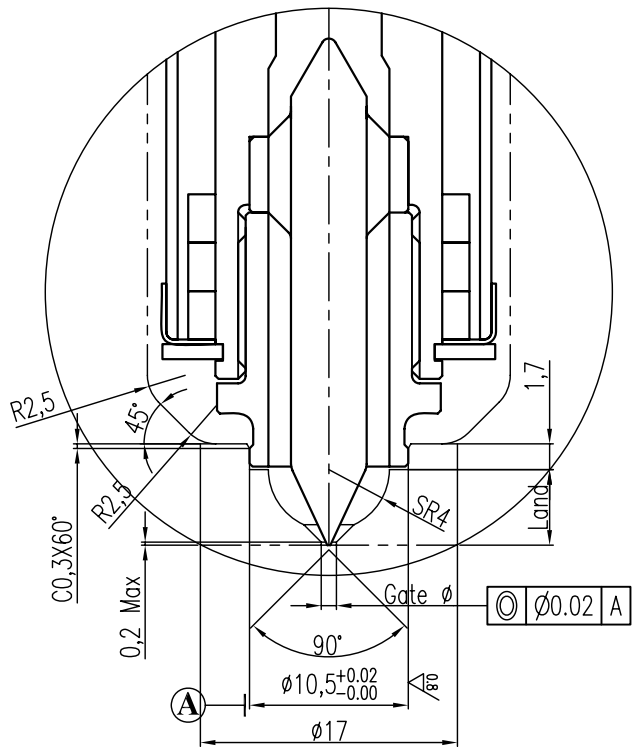
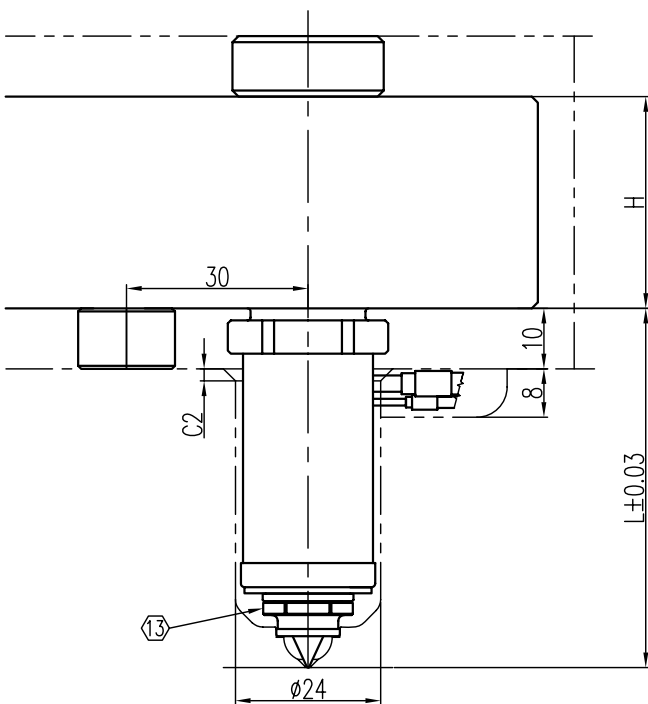
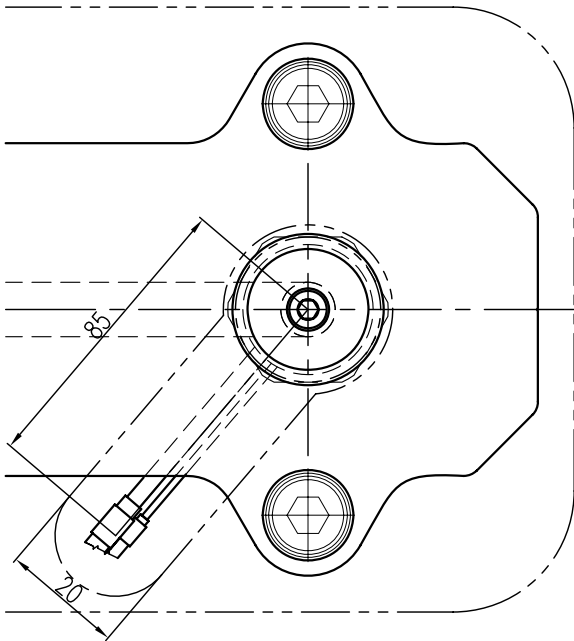
L	H	Gate Ø	Land
40 - 135	40, 45, 50, 55	0,8 - 1,5	5



BXS

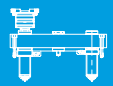
C-type torpedo (CT)

- suited for amorphous and semi-crystalline materials
- suited for color change



Related to the scope of size (when out of range, special design needed)

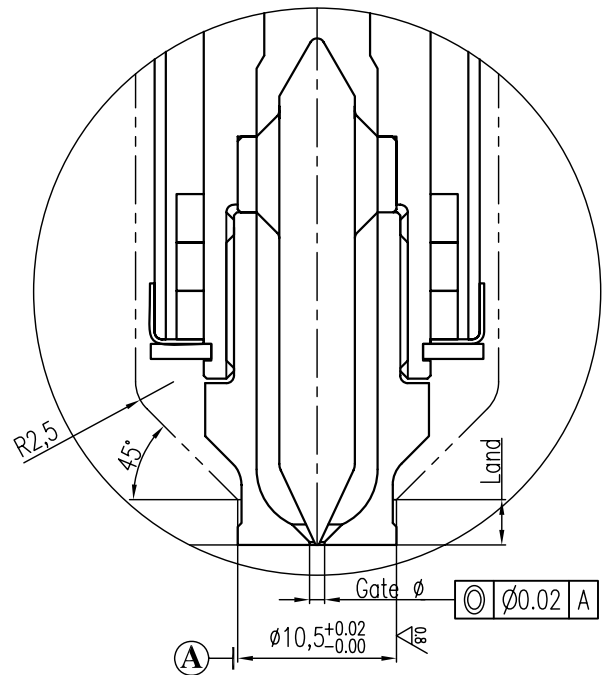
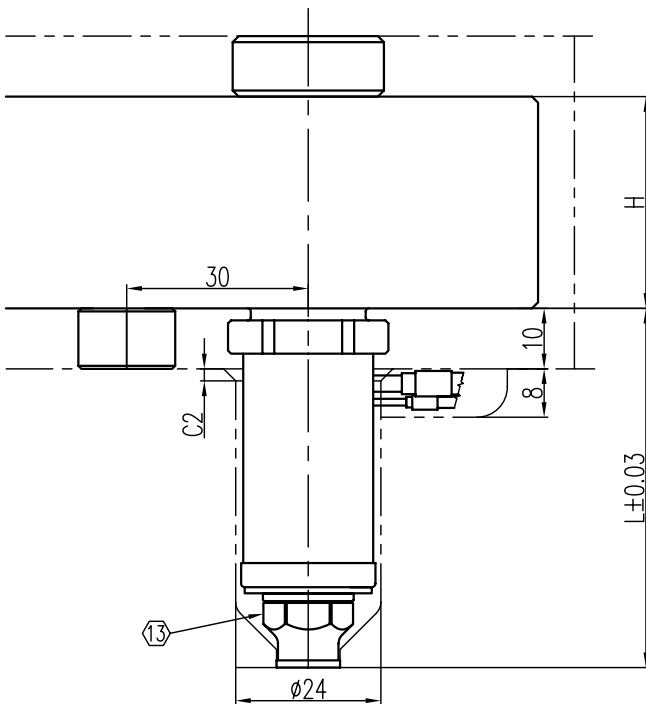
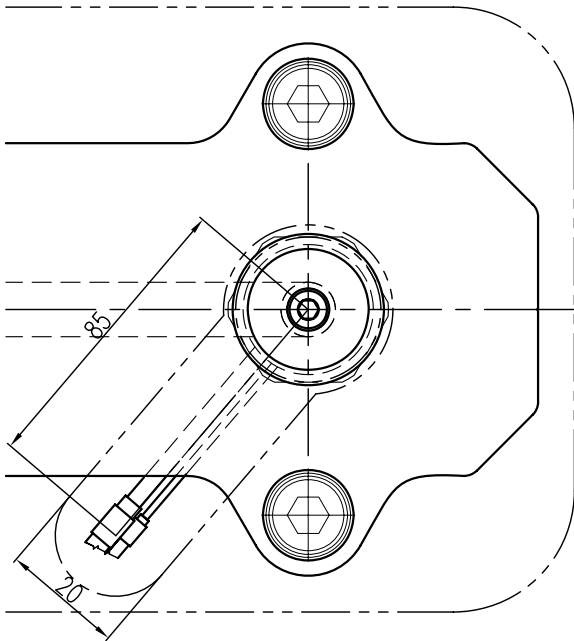
L	H	Gate ϕ	Land
40 - 135	40, 45, 50, 55	0,8 - 1,5	5



BXS

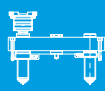
C-type torpedo with bushing (CTB)

- suited for crystalline materials
- simplifies mold manufacturing
- suited for color change



Related to the scope of size (when out of range, special design needed)

L	H	Gate Ø	Land
40 - 135	40, 45, 50, 55	0,8 - 1,5	3

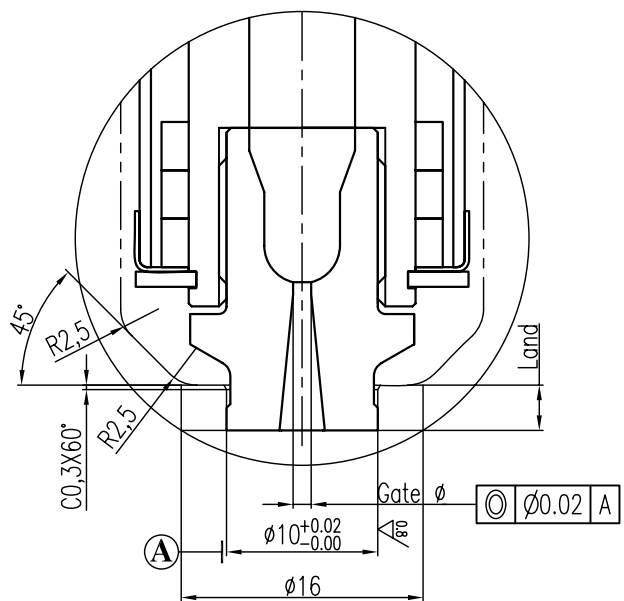
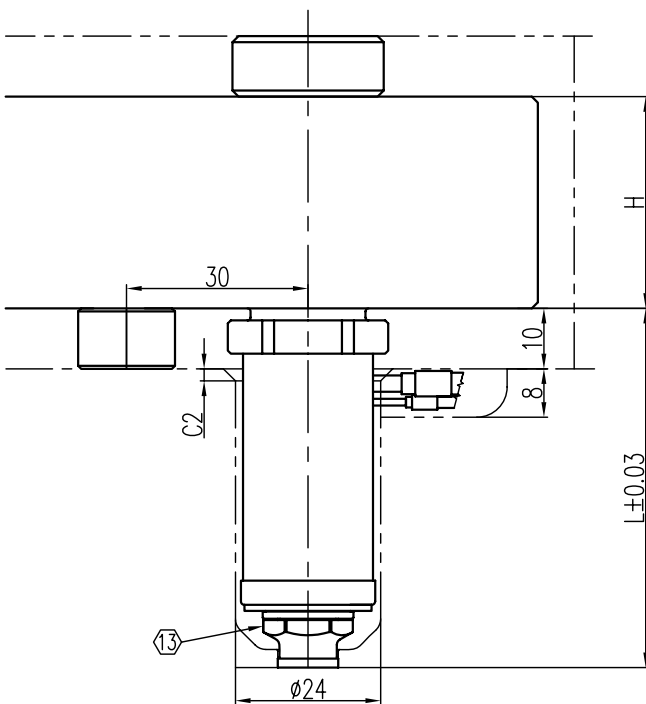
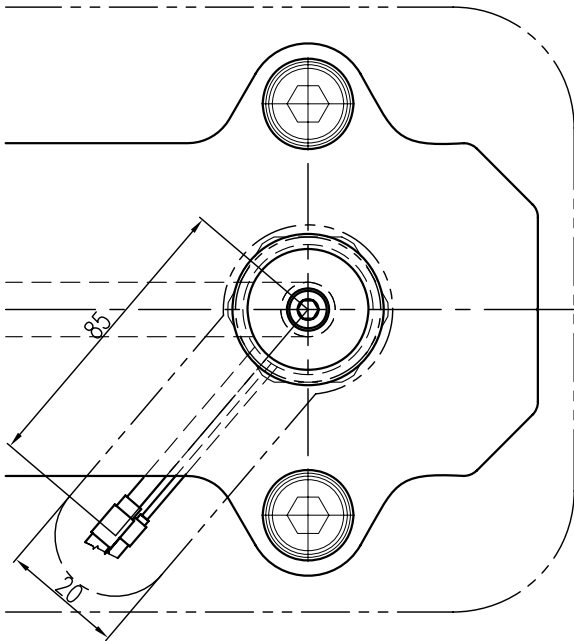


BXS

Hot Sprue (HS)

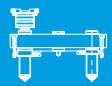


- suited for all materials
- gating into the sub runners
- nozzle profile adjustments by the moldmaker required



Related to the scope of size (when out of range, special design needed)

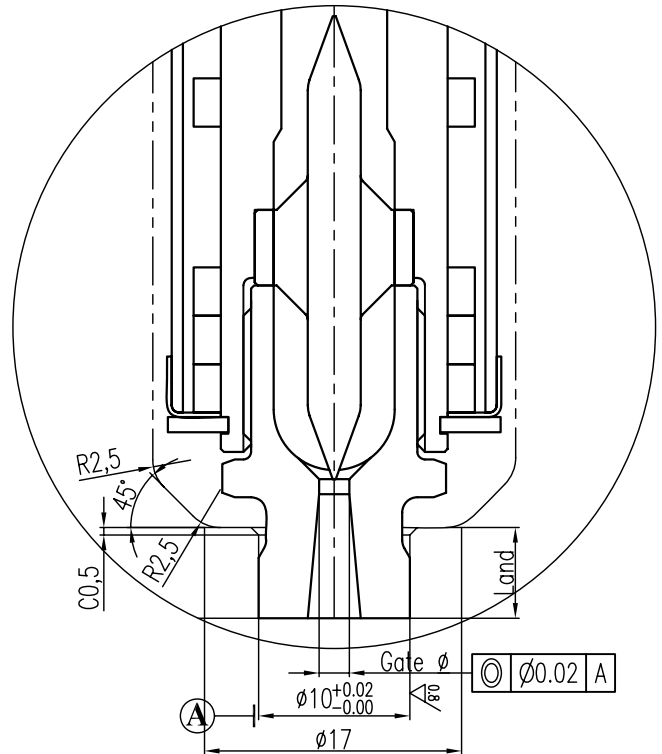
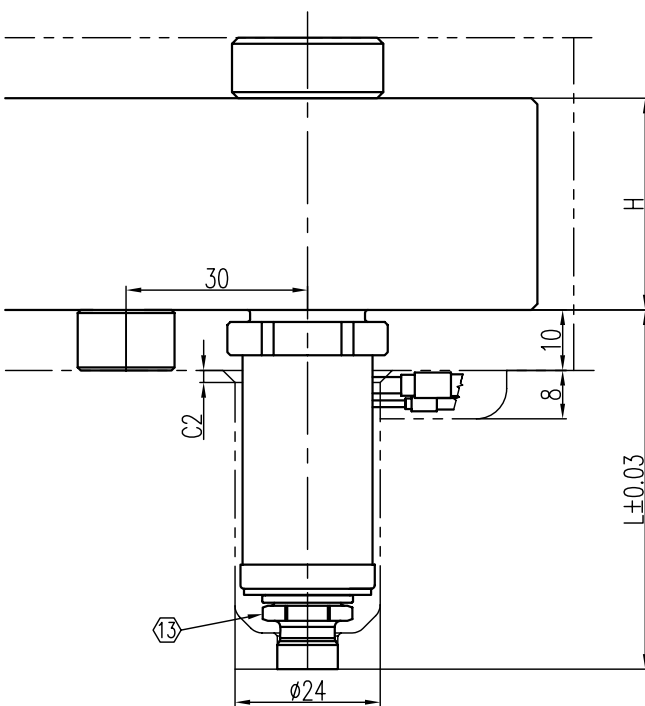
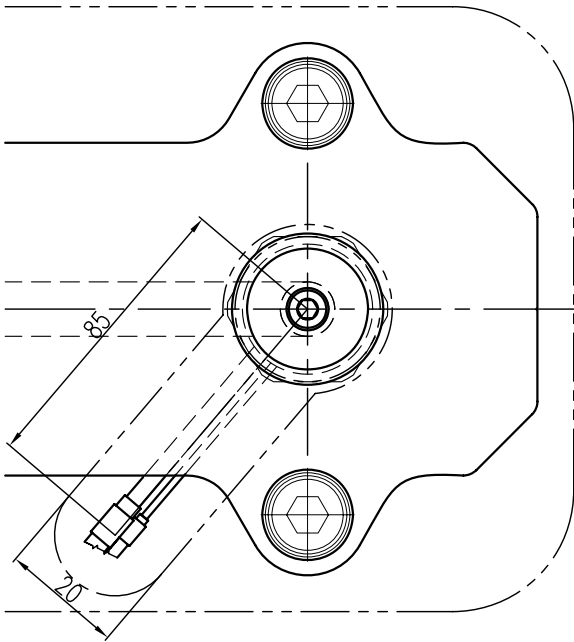
L	H	Gate Ø	Land
40 - 135	40, 45, 50, 55	1,0 - 2,5	3



Torpedo bushing (TB)

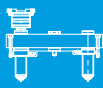
BXS

- designed for high processing temperature engineering materials
- gating into the sub runners
- nozzle profile adjustments by the moldmaker required



Related to the scope of size (when out of range, special design needed)

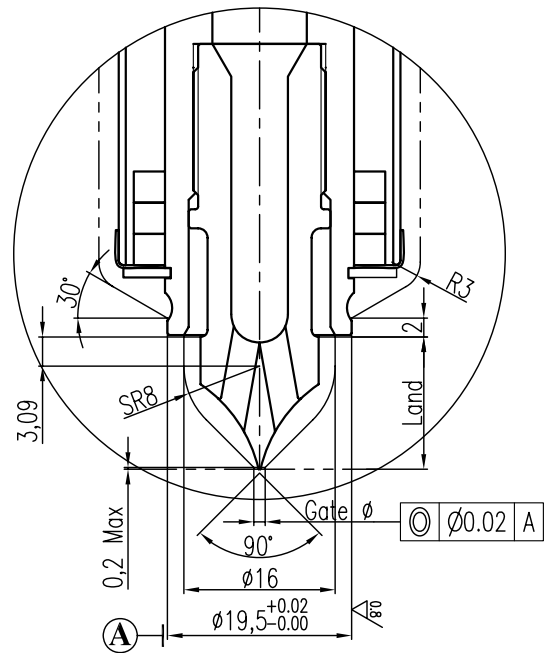
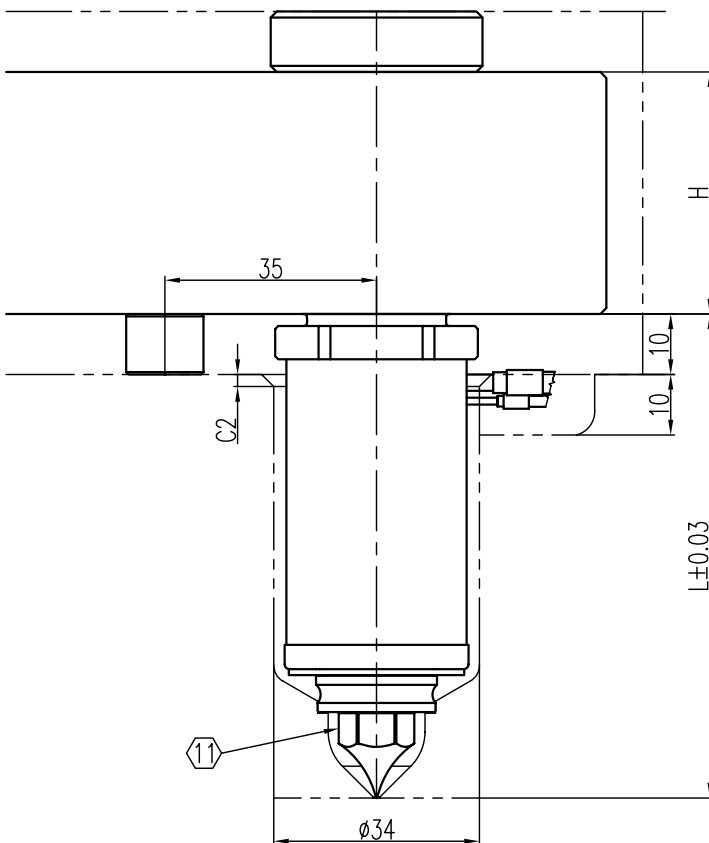
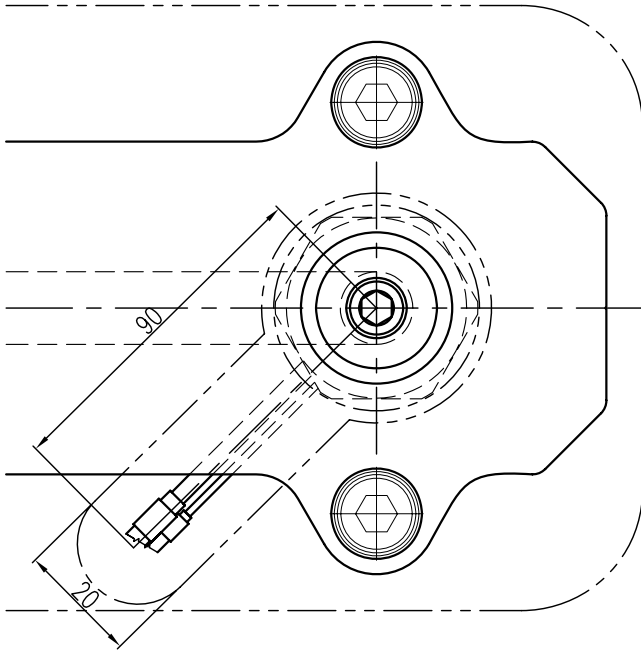
L	H	Gate ϕ	Land
50 - 135	40, 45, 50, 55	1,2 - 2,5	6



BXS

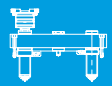
E-type torpedo (ET)

- suited for amorphous and semi-crystalline materials
- not suited for color change



Related to the scope of size (when out of range, special design needed)

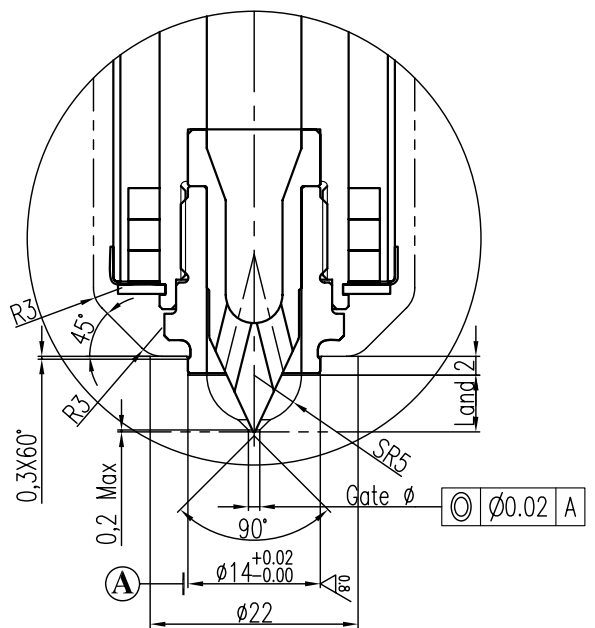
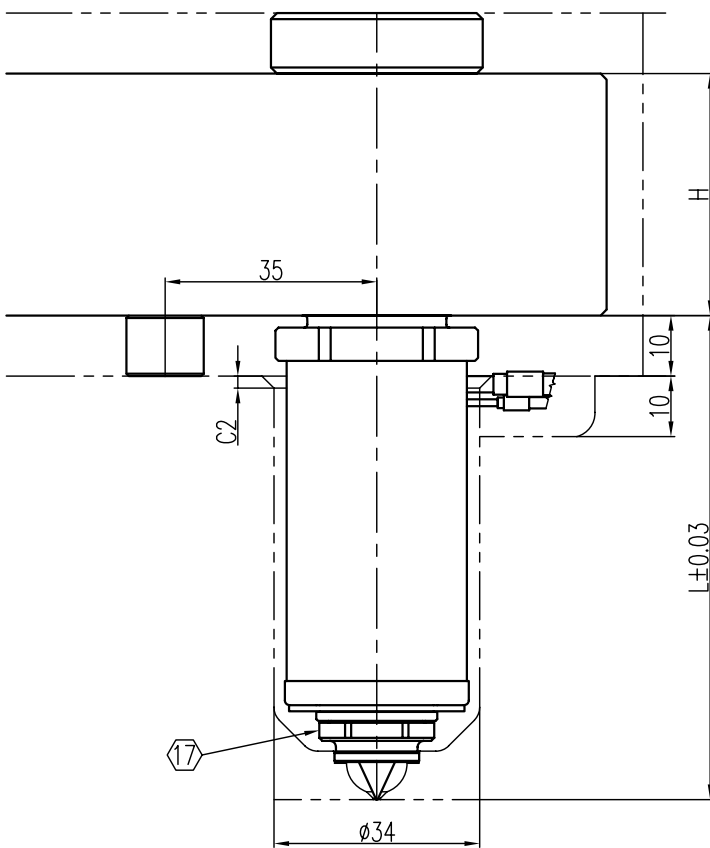
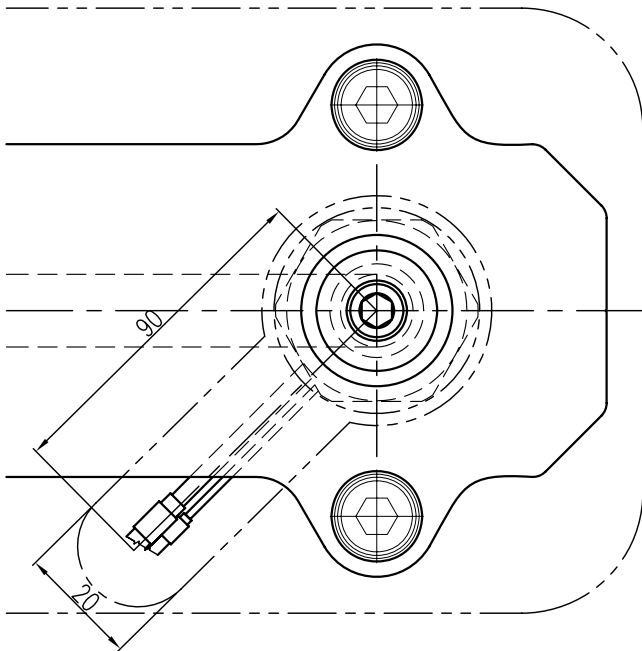
L	H	Gate Ø	Land
40 - 250	45, 50, 55	1,0 - 2,0	14



BXS

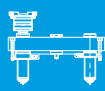
S-type torpedo (ST)

- suited for amorphous and semi-crystalline materials
- not suited for color change



Related to the scope of size (when out of range, special design needed)

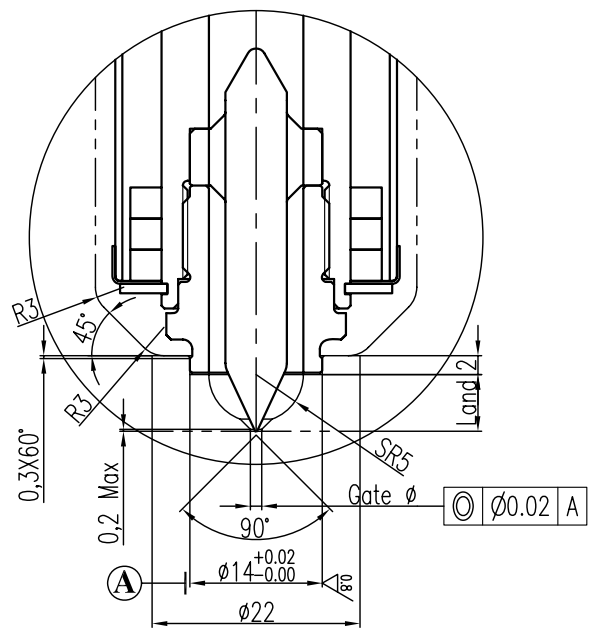
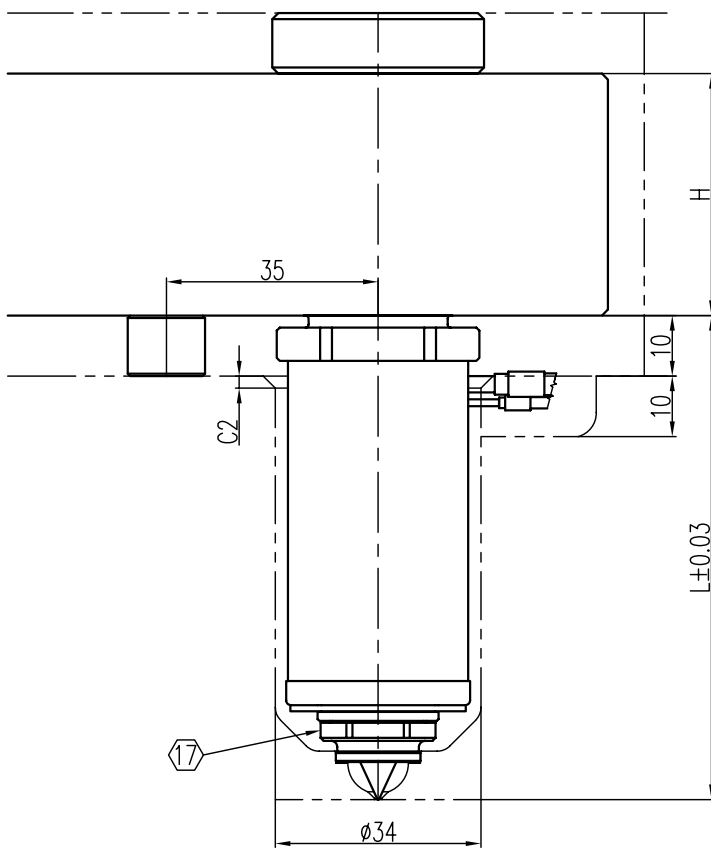
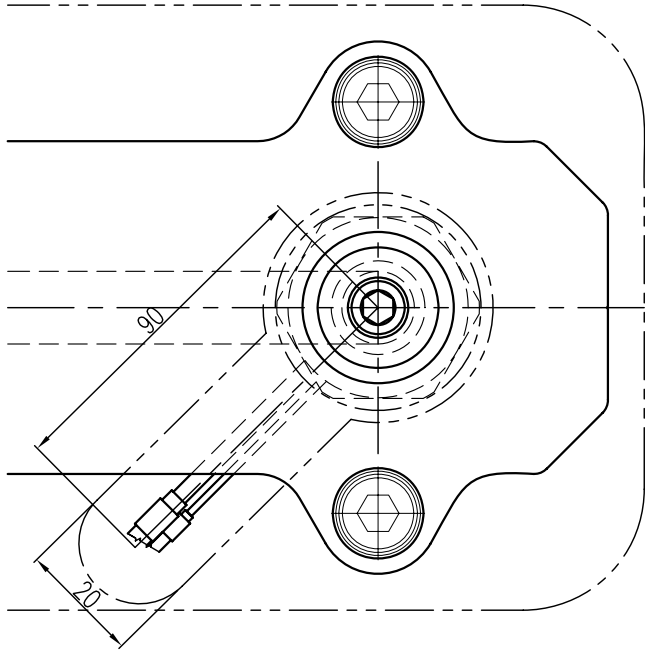
L	H	Gate Ø	Land
40 - 250	45, 50, 55	1,0 - 2,0	6



BXS

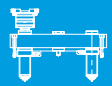
C-type torpedo (CT)

- suited for amorphous and semi-crystalline materials
- suited for color change



Related to the scope of size (when out of range, special design needed)

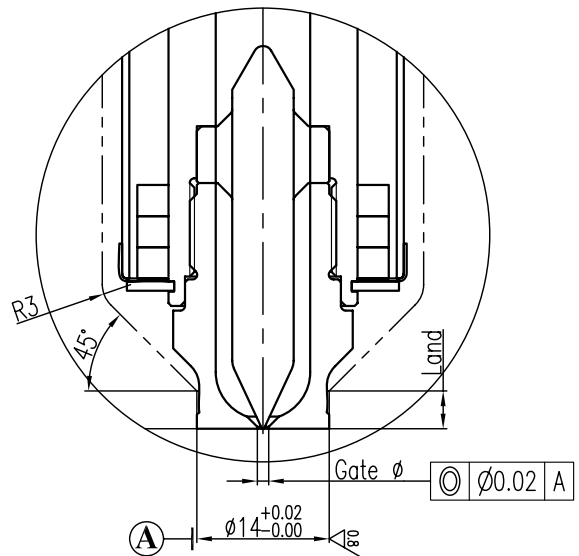
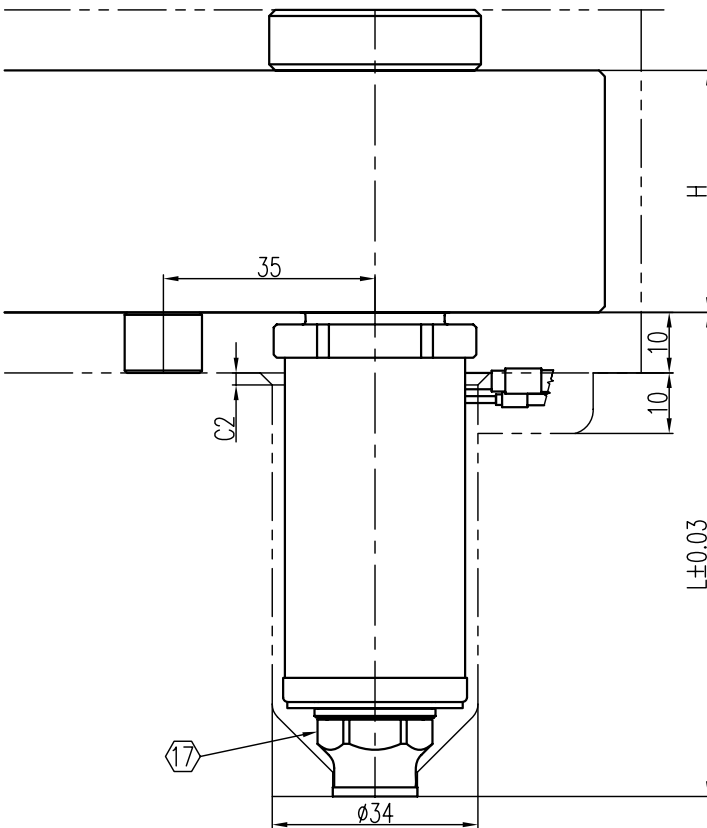
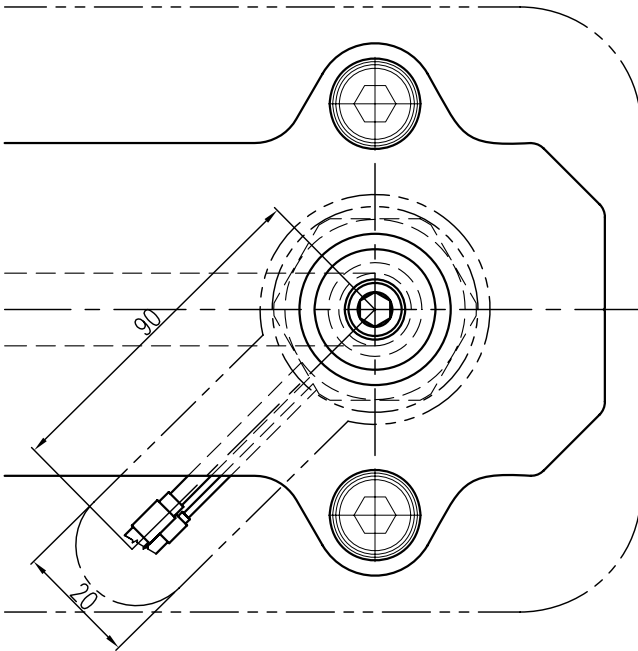
L	H	Gate Ø	Land
40 - 250	45, 50, 55	1,0 - 2,0	6



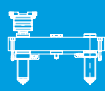
BXS

C-type torpedo with bushing (CTB)

- suited for crystalline materials
- simplifies mold manufacturing
- suited for color change



Related to the scope of size (when out of range, special design needed)			
L	H	Gate ϕ	Land
40 - 250	45, 50, 55	1,0 - 2,0	4

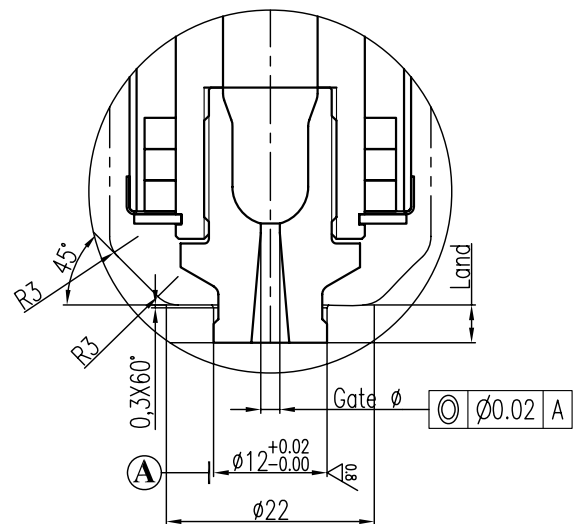
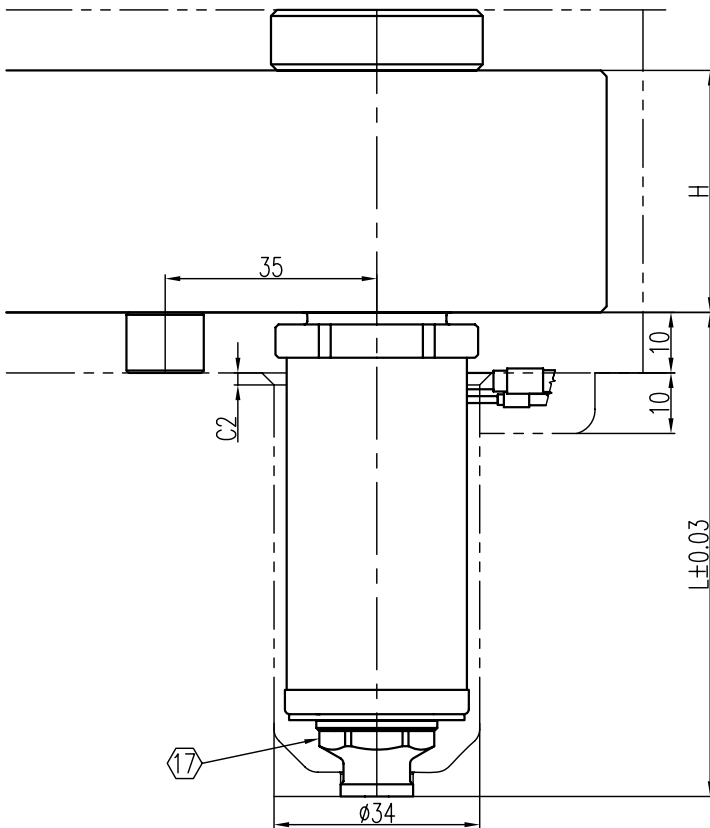
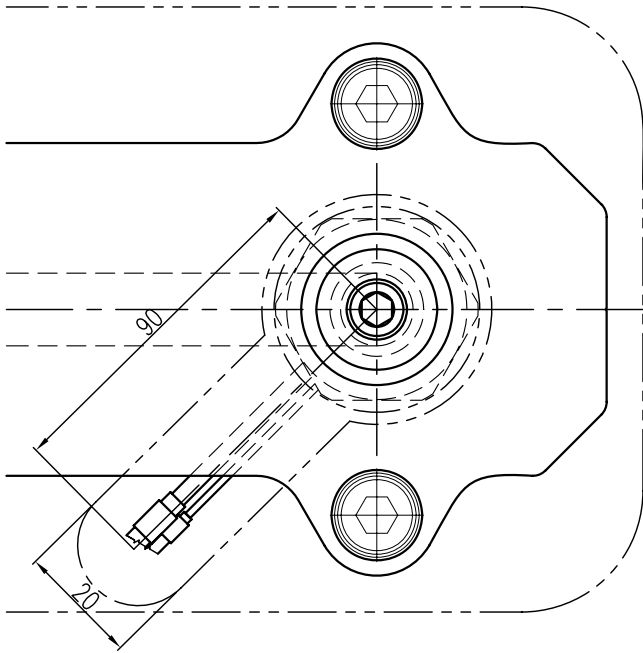


BXS

Hot Sprue (HS)

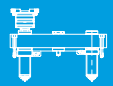


- suited for all materials
- gating into the sub runners
- nozzle profile adjustments by the moldmaker required



Related to the scope of size (when out of range, special design needed)

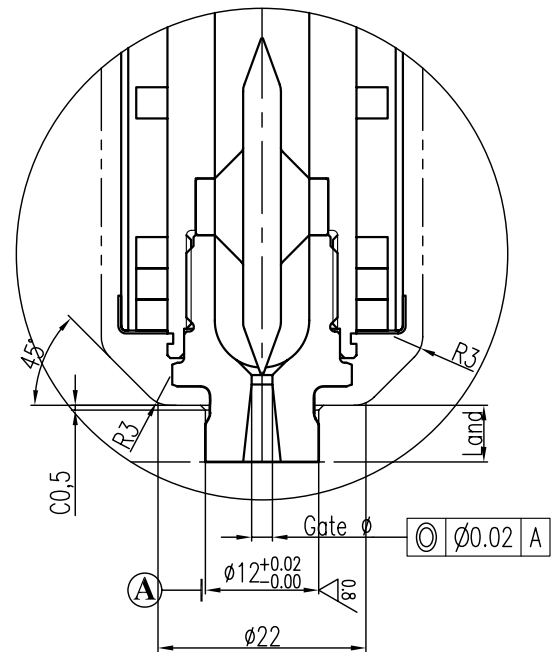
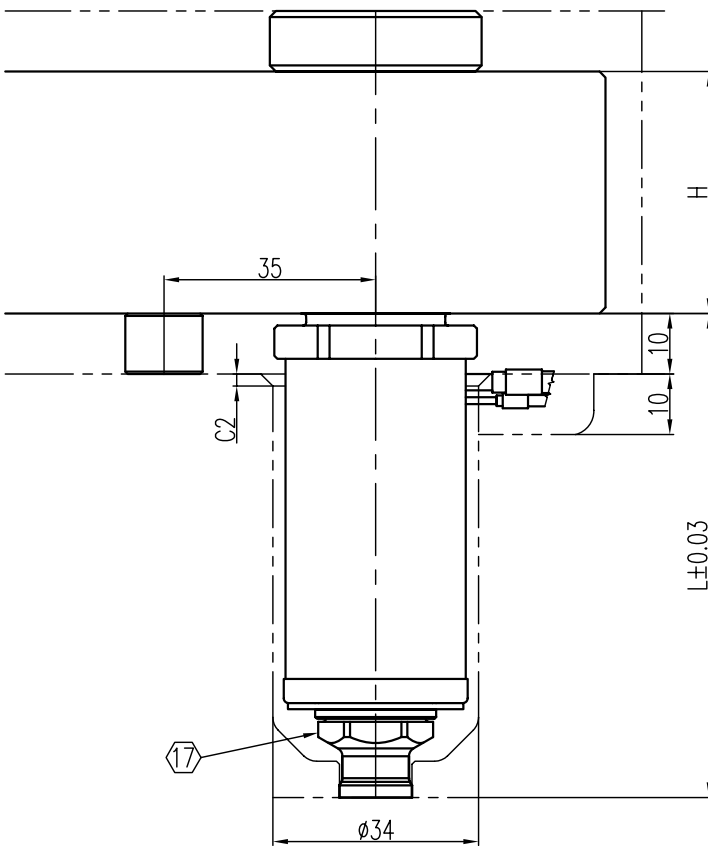
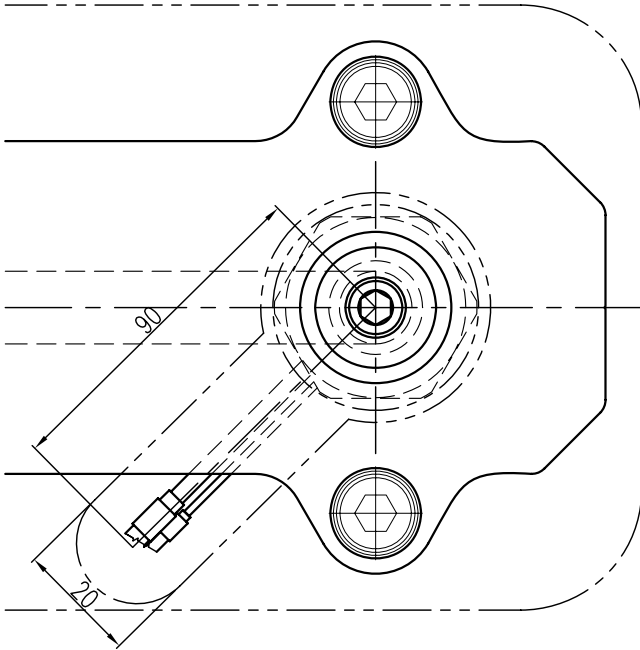
L	H	Gate Ø	Land
40 - 250	45, 50, 55	1,0 - 2,5	4



Torpedo bushing (TB)

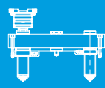
BXS

- designed for high processing temperature engineering materials
- gating into the sub runners
- nozzle profile adjustments by the moldmaker required



Related to the scope of size (when out of range, special design needed)

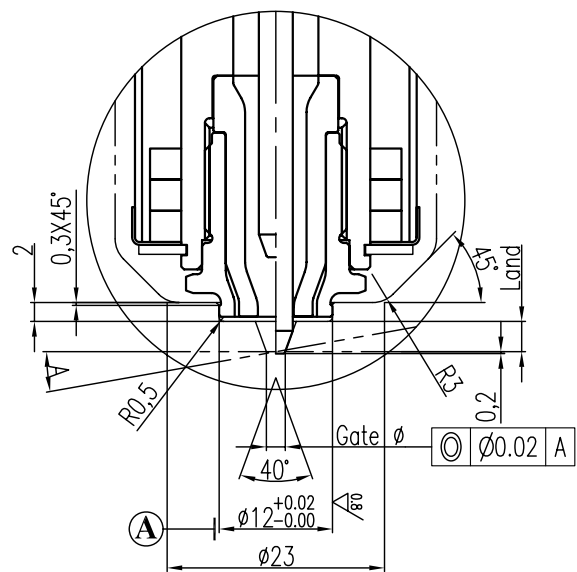
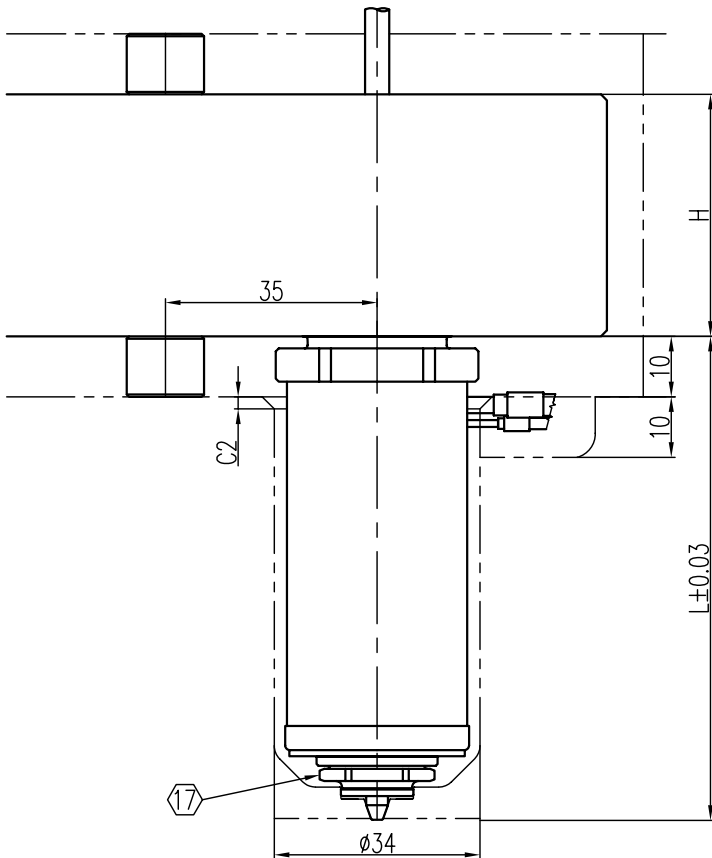
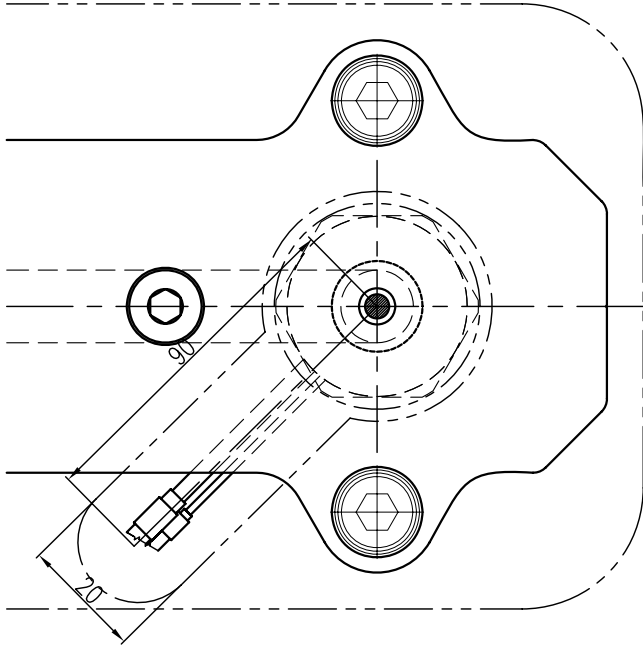
L	H	Gate Ø	Land
40 - 250	45, 50, 55	1,5 - 3,0	6



BXS

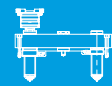
Bi-Met C-Type valve (CV)

- suited for all materials
- use PNC4010 pneumatic cylinder or HYC2508 hydraulic cylinder
- can be used when $A < 10^\circ$



Related to the scope of size (when out of range, special design needed)

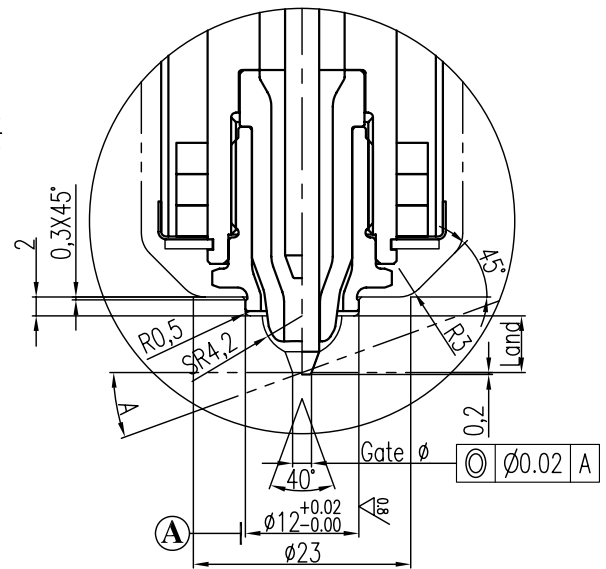
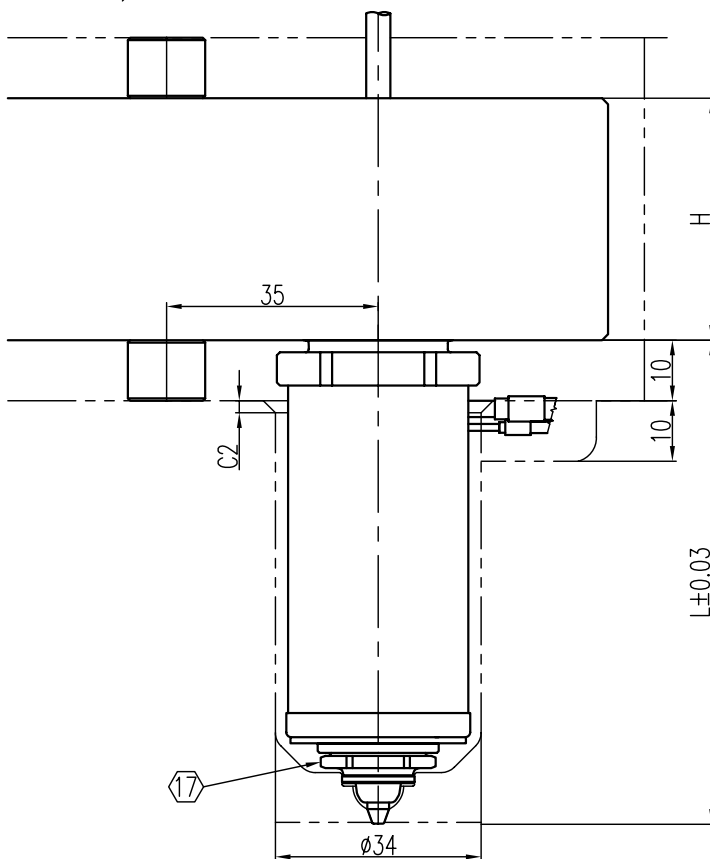
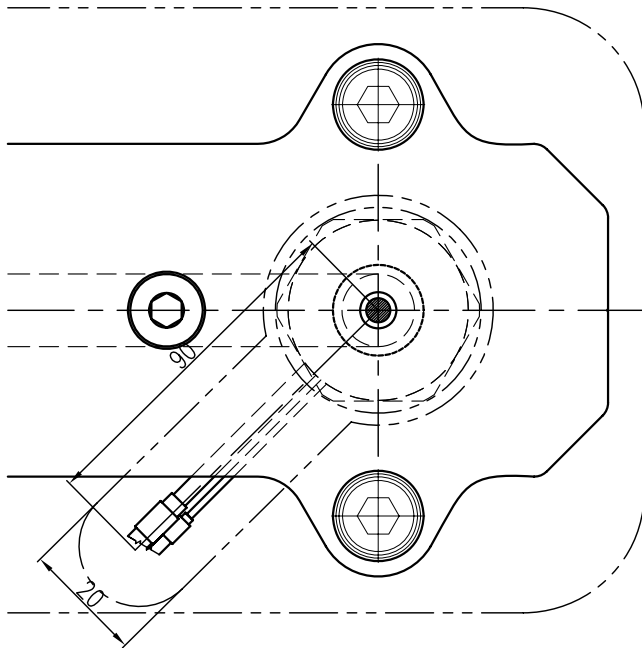
L	H	A	Gate Ø	Land
40 - 160	45, 50, 55	0° - 10°	1,5	3,2
			2,0	3,2



BXS

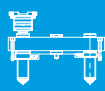
Bi-Met extended C-Type valve (CVE)

- suited for all materials
- use PNC4010 pneumatic cylinder or HYC2508 hydraulic cylinder
- can be used when $A < 20^\circ$



Related to the scope of size (when out of range, special design needed)

L	H	A	Gate Ø	Land
40 - 160	45, 50, 55	0° - 10°	1,5, 2	6,0
		10° - 20°	1,5, 2	6,4

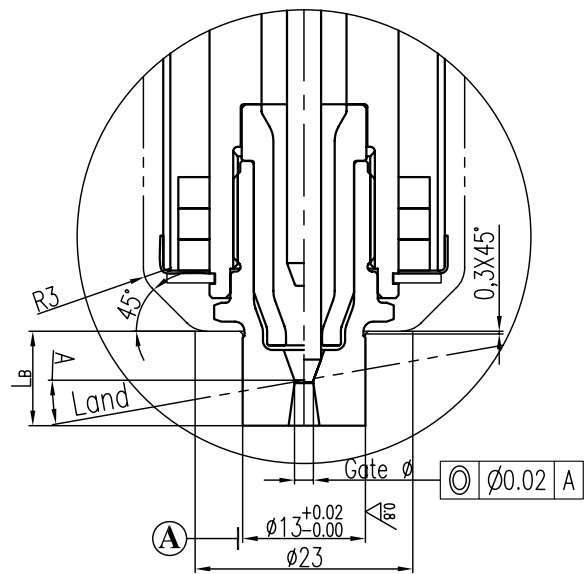
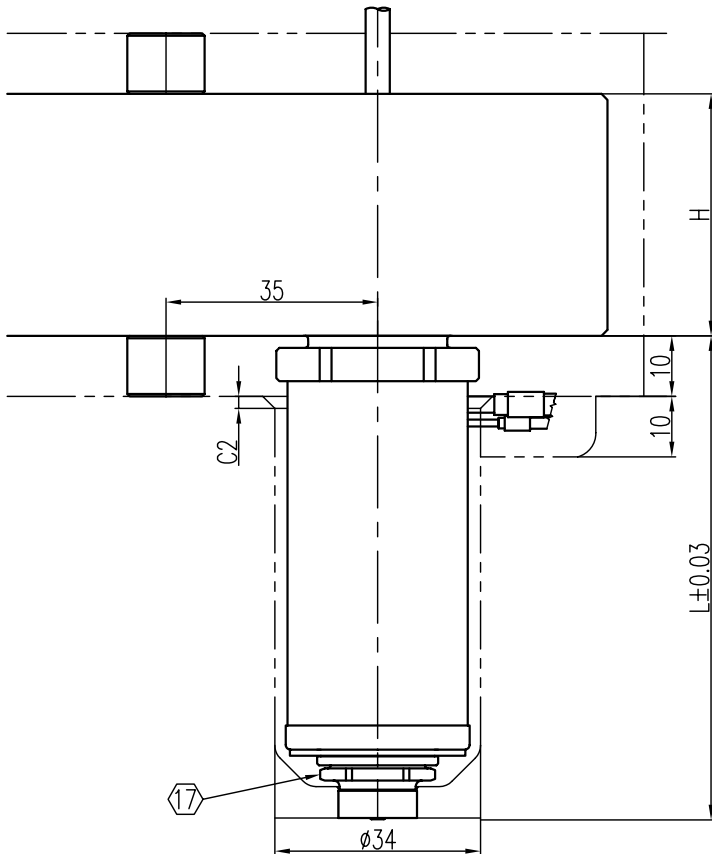
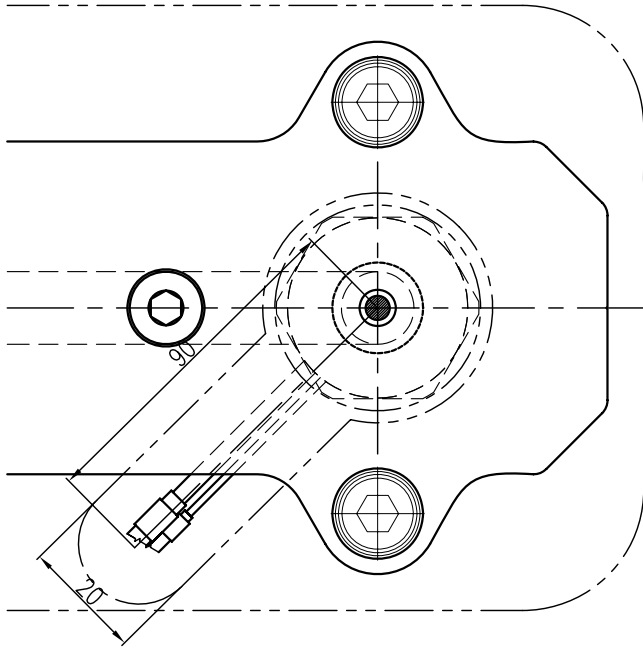


BXS

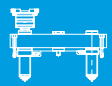
Bi-Met C-valve with bushing (CVB)



- suited for all materials
- use PNC4010 pneumatic cylinder or HYC2508 hydraulic cylinder
- can be used when $A < 10^\circ$
- simplifies mold manufacturing



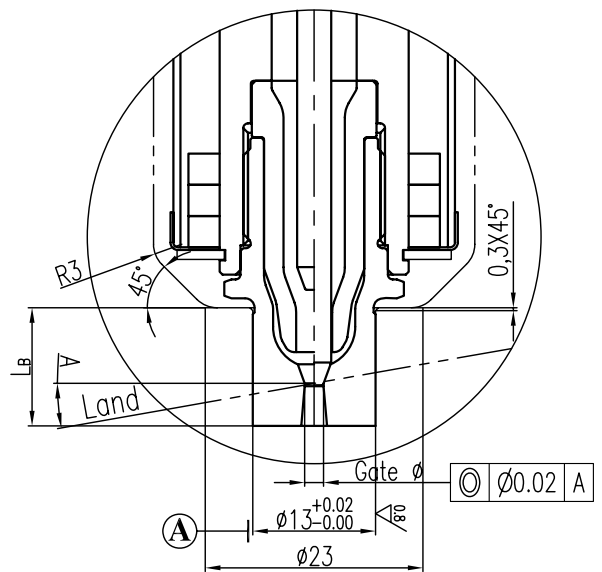
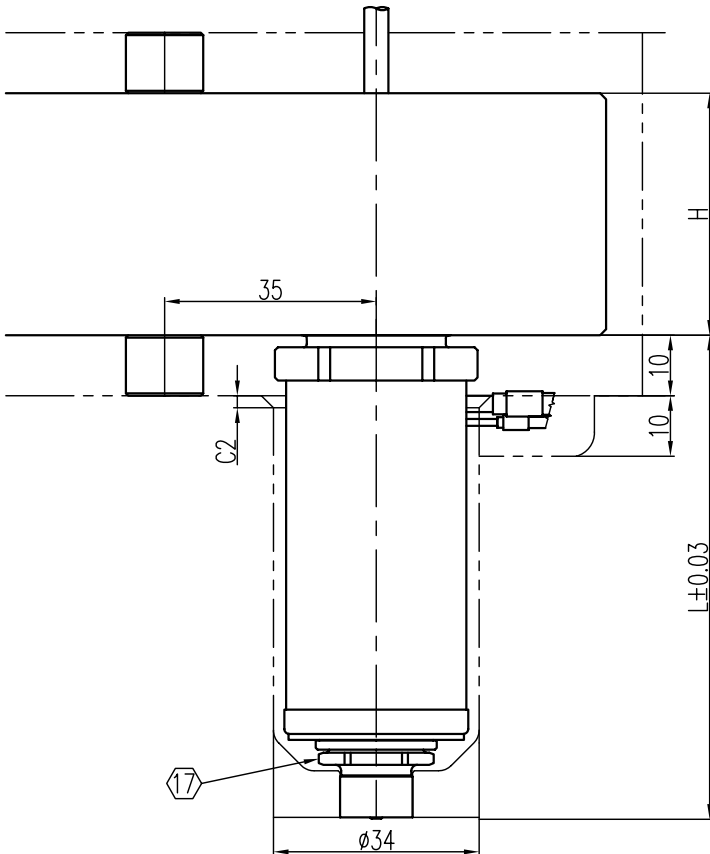
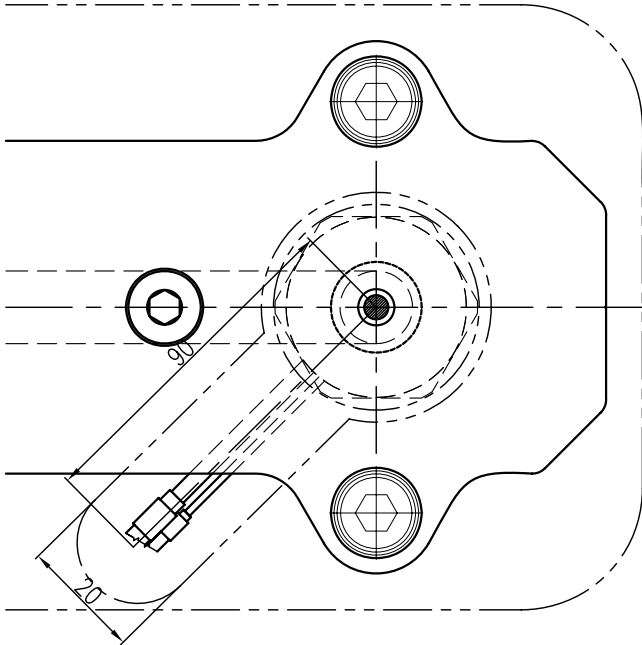
Related to the scope of size (when out of range, special design needed)				
L	H	A	Gate Ø	Land
40 - 160	45, 50, 55	-	1,5, 2	5,2
		0° - 10°	1,5, 2	10



Bi-Met extended C-valve with bushing (CVEB)

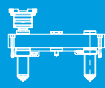
BXS

- suited for all materials
- use PNC4010 pneumatic cylinder or HYC2508 hydraulic cylinder
- can be used when $A < 20^\circ$
- simplifies mold manufacturing



Related to the scope of size (when out of range, special design needed)

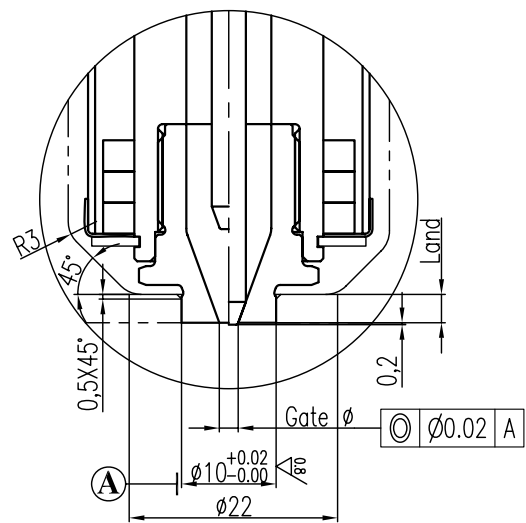
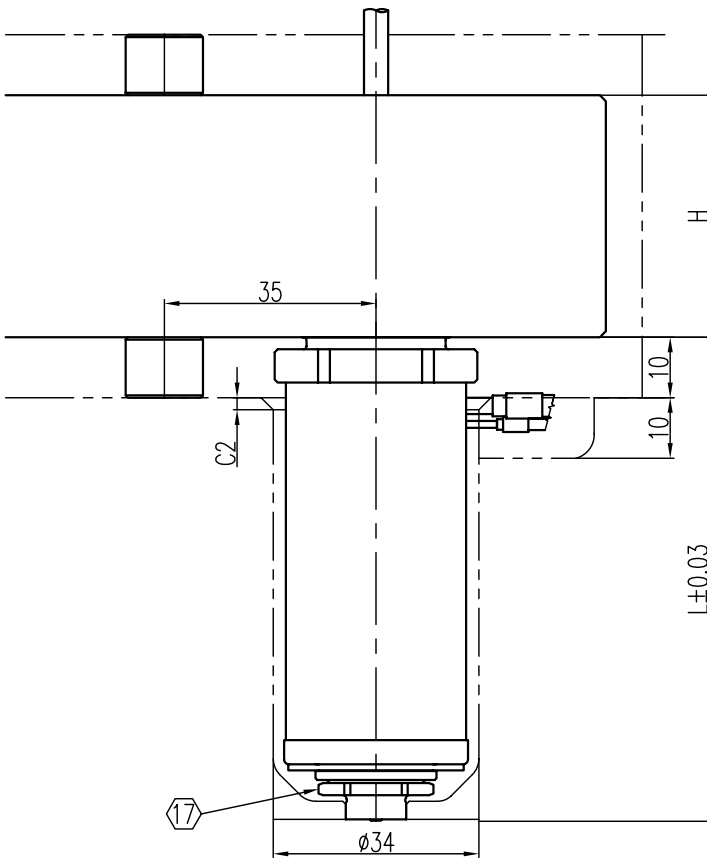
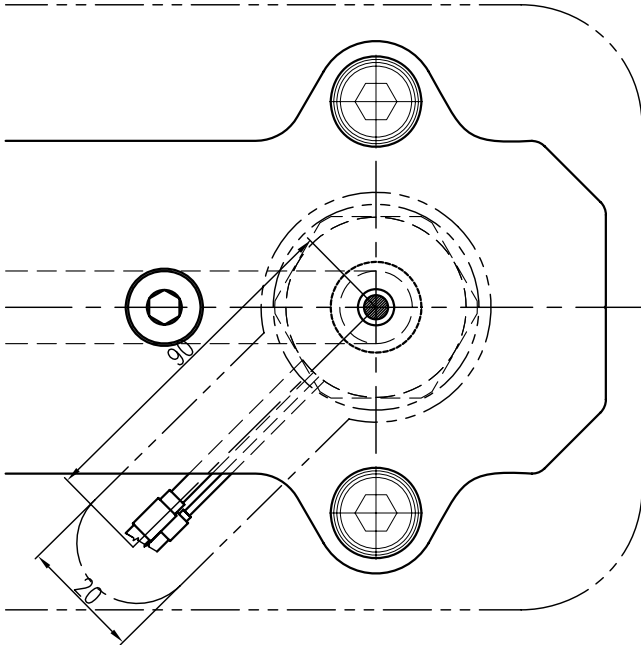
L	H	A	Gate Ø	Land
40 - 160	45, 50, 55	-	1,5, 2	5,2
		$0^\circ - 20^\circ$	1,5, 2	12,5



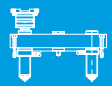
BXS

E-type valve (EV)

- suited for crystalline materials
- use PNC4010 pneumatic cylinder or HYC2508 hydraulic cylinder
- simplifies mold manufacturing



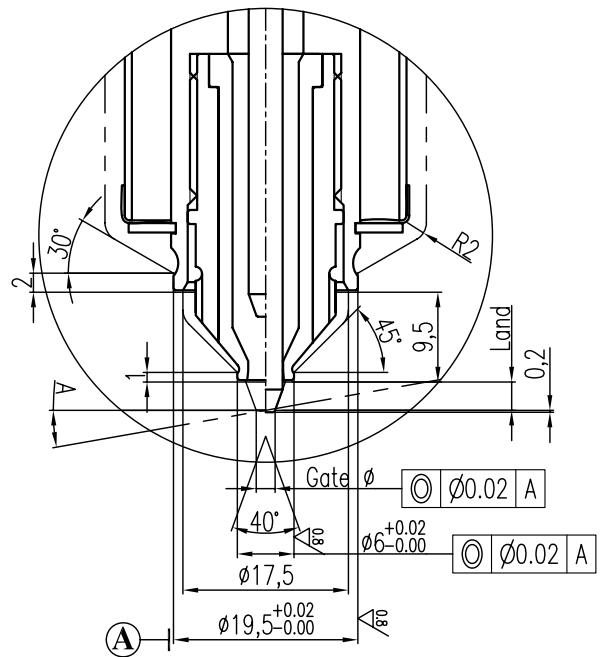
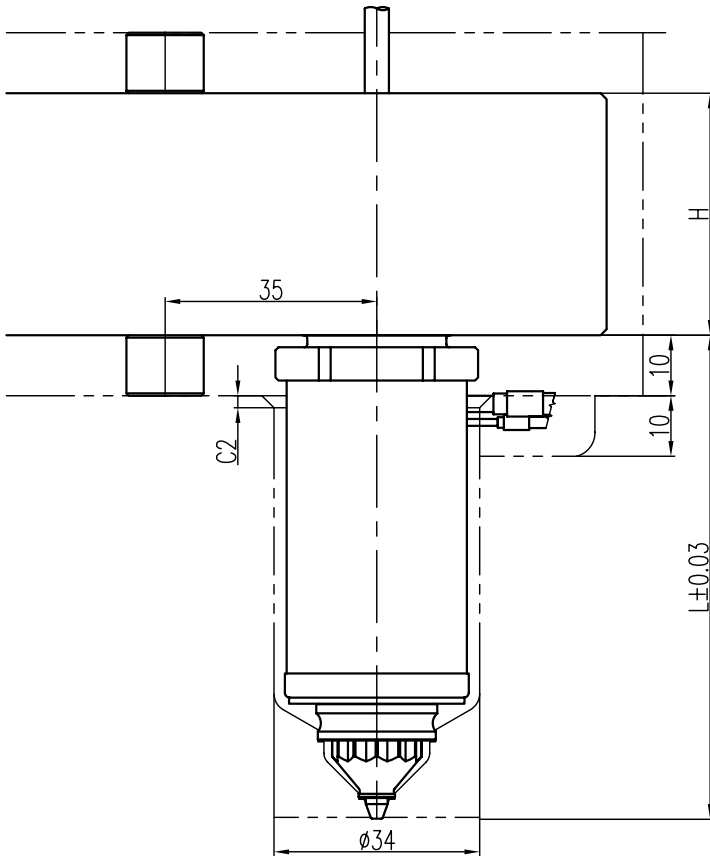
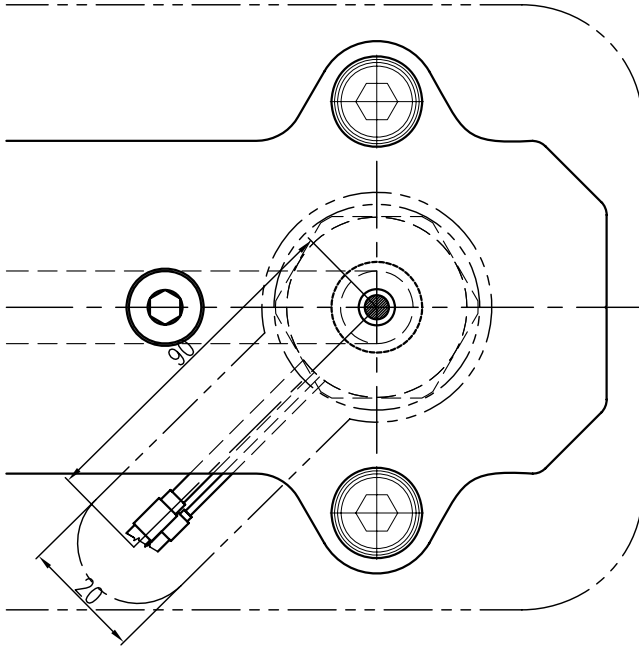
Related to the scope of size (when out of range, special design needed)			
L	H	Gate Ø	Land
40 - 160	45, 50, 55	1,5	3
		2,0	3



Bi-Met W-valve (WV)

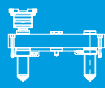
BXS

- suited for low processing temperature amorphous and semi-crystalline materials
- use PNC4010 pneumatic cylinder or HYC2508 hydraulic cylinder
- can be used when $A < 10^\circ$
- especially designed for high friction material



Related to the scope of size (when out of range, special design needed)

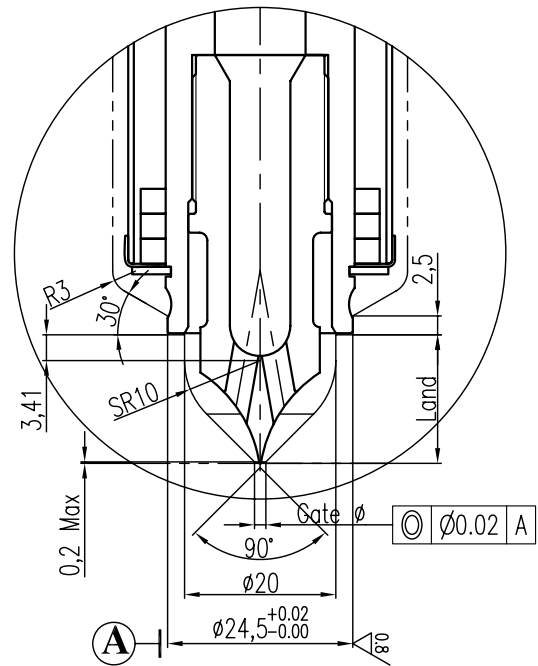
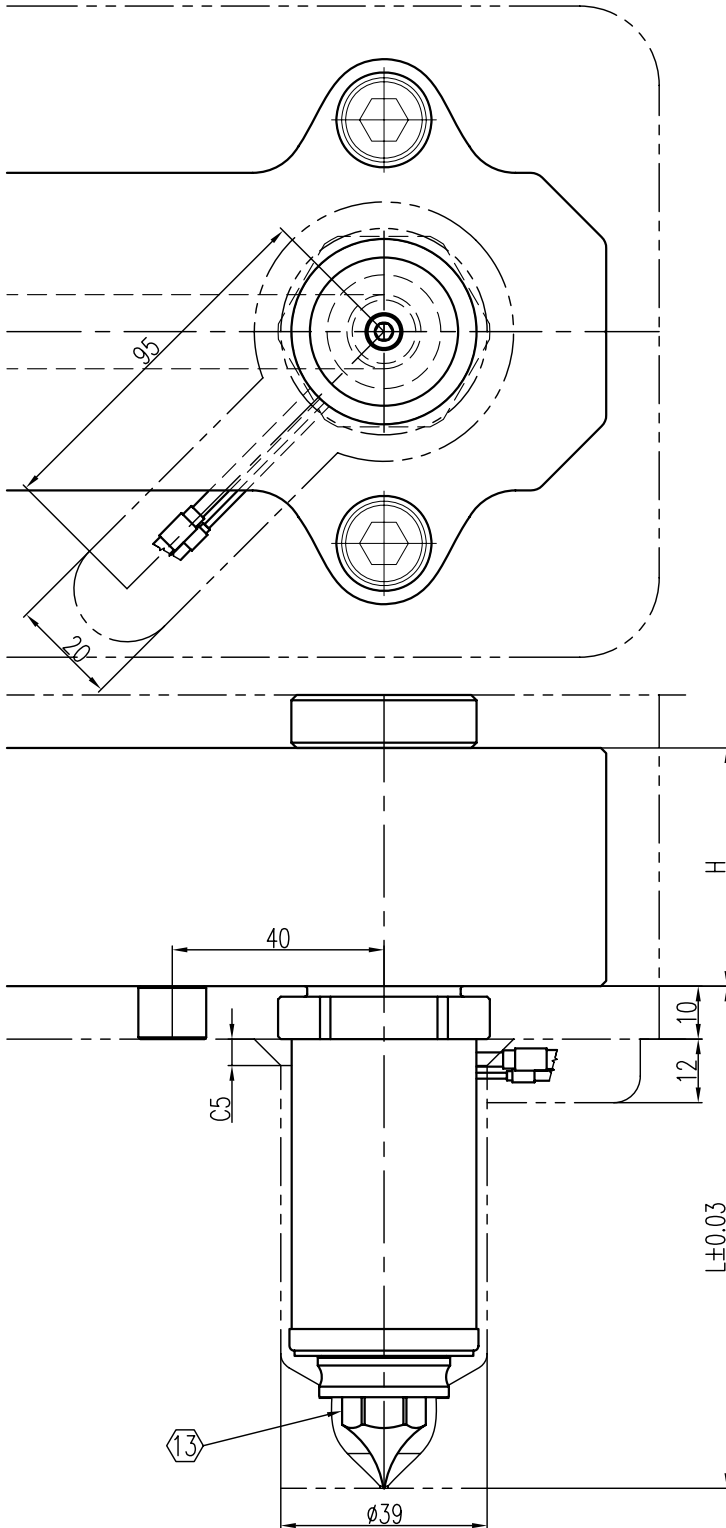
L	H	A	Gate ϕ	Land
40 - 160	45, 50, 55	$0^\circ - 10^\circ$	1,5	3,2
			2,0	3,2



BXS

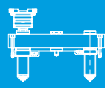
E-type torpedo (ET)

- suited for amorphous and semi-crystalline materials
- not suited for color change



Related to the scope of size (when out of range, special design needed)

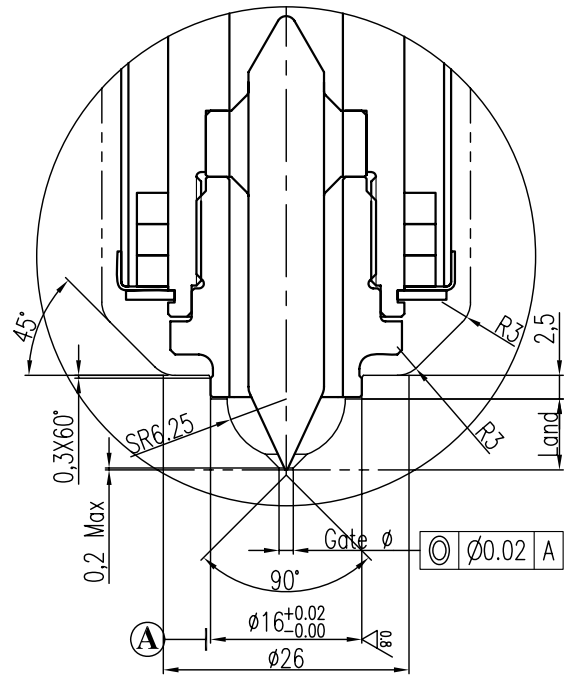
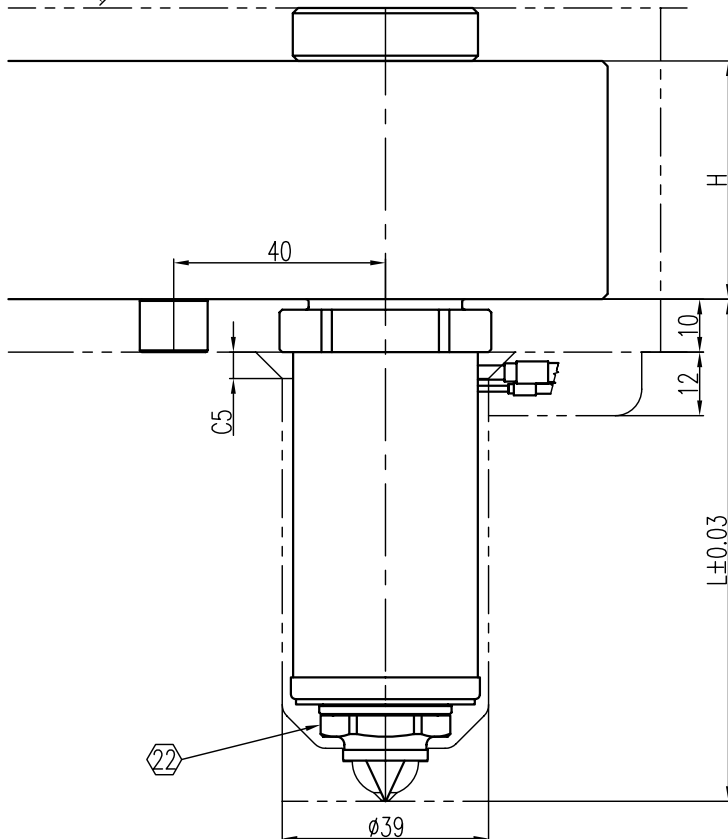
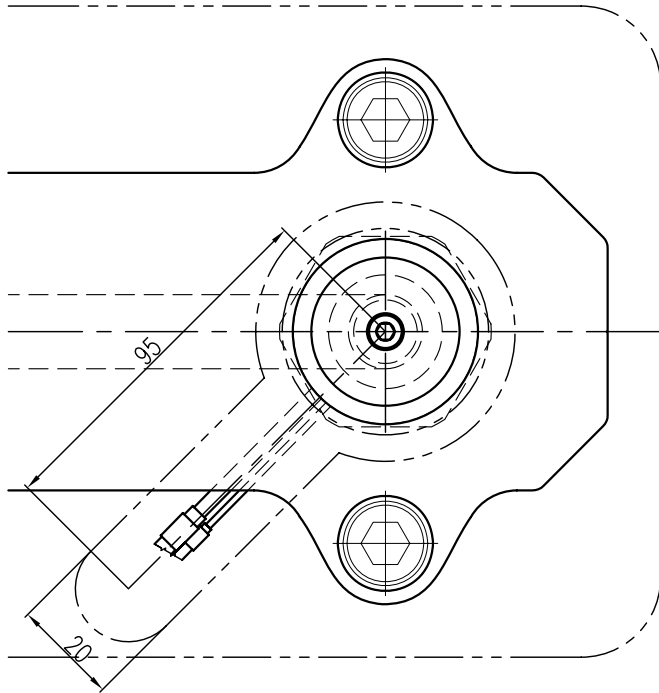
L	H	Gate ϕ	Land
50 - 350	50, 55, 60	1,2 - 2,5	14



BXS

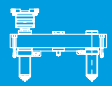
C-type torpedo (CT)

- suited for amorphous and semi-crystalline materials
- suited for color change



Related to the scope of size (when out of range, special design needed)

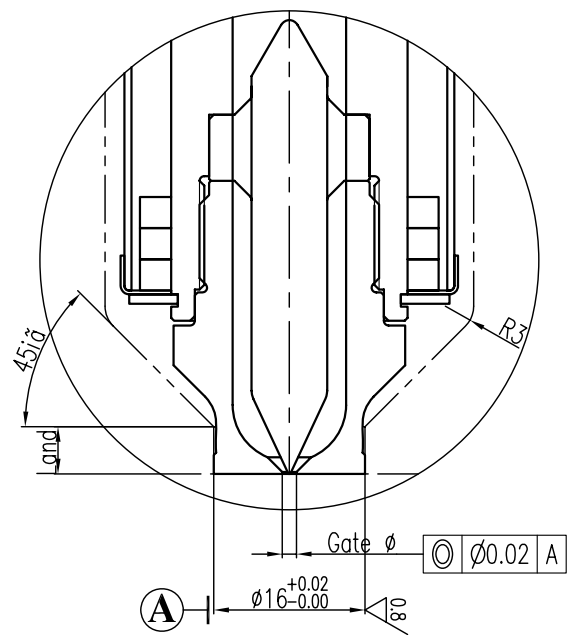
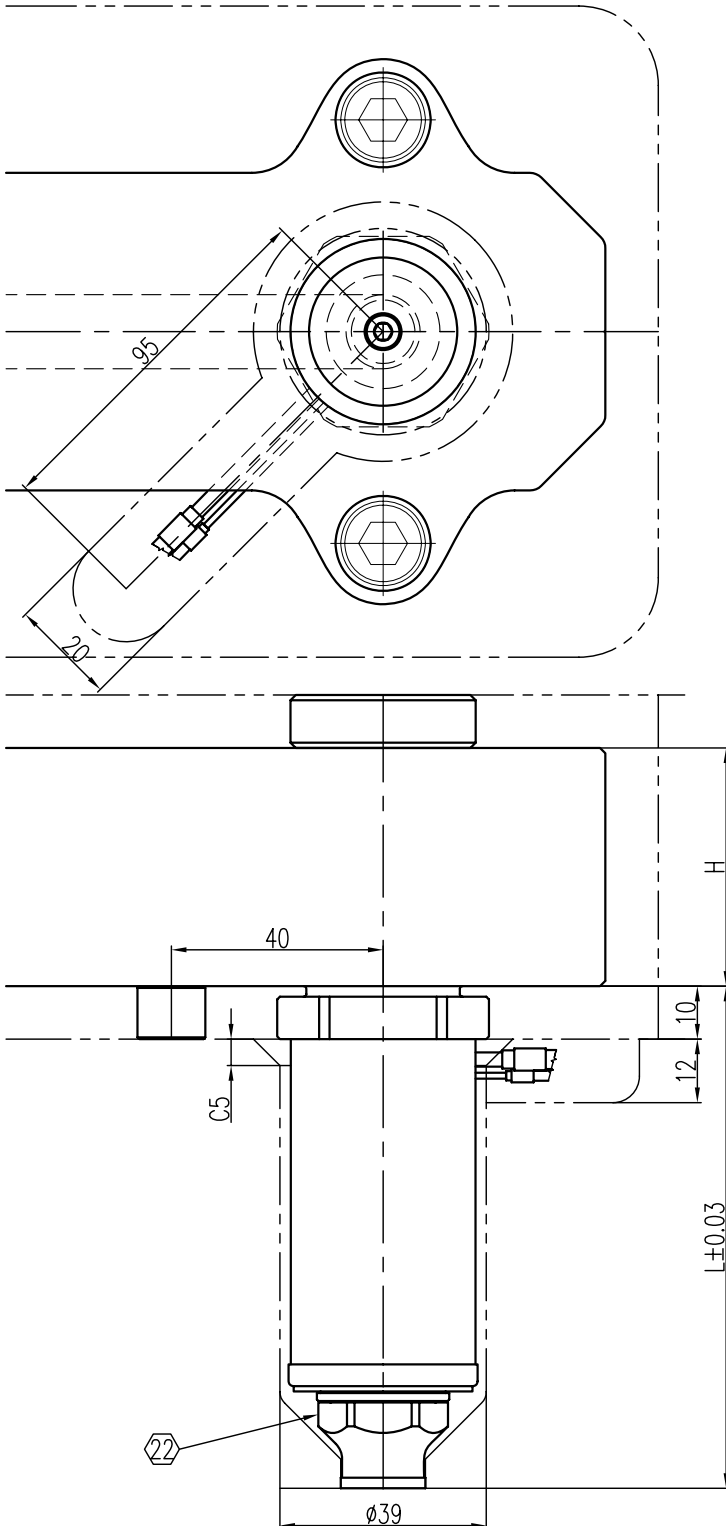
L	H	Gate Ø	Land
50 - 350	50, 55, 60	1,2 - 2,5	7,7



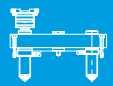
BXS

C-type torpedo with bushing (CTB)

- suited for crystalline materials
- simplifies mold manufacturing
- suited for color change



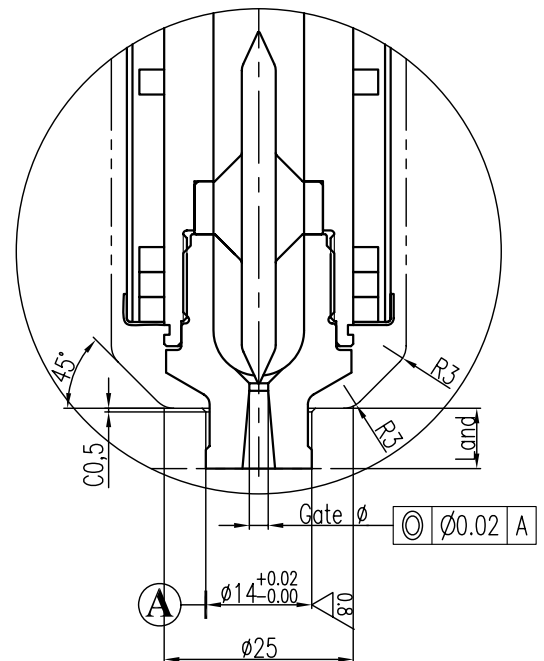
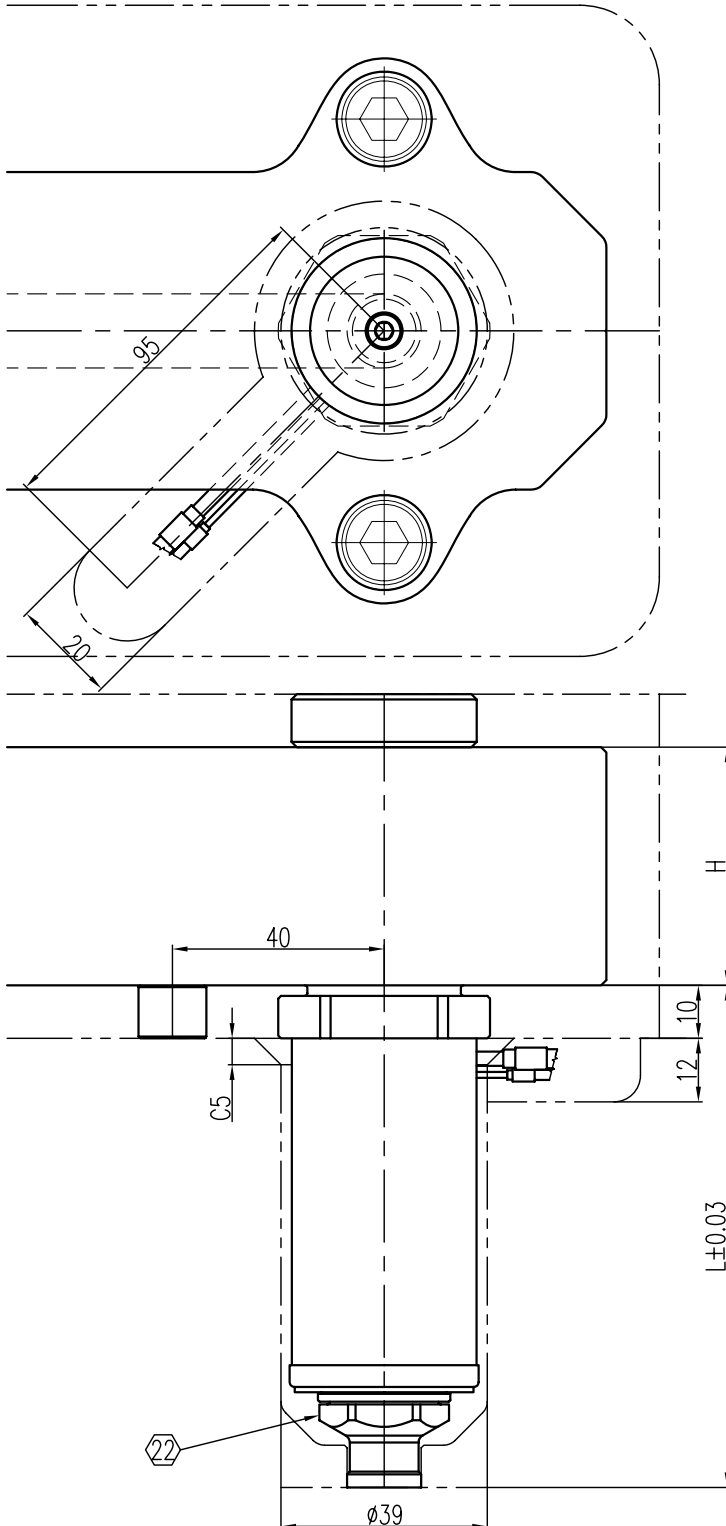
Related to the scope of size (when out of range, special design needed)			
L	H	Gate Ø	Land
50 - 350	50, 55, 60	1,2 - 2,5	5



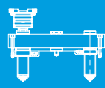
Torpedo bushing (TB)

BXS

- designed for high processing temperature engineering materials
- gating into the sub runners
- nozzle profile adjustments by the moldmaker required



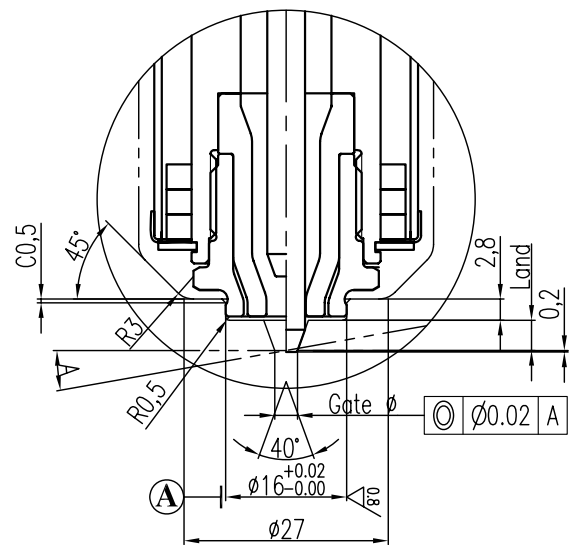
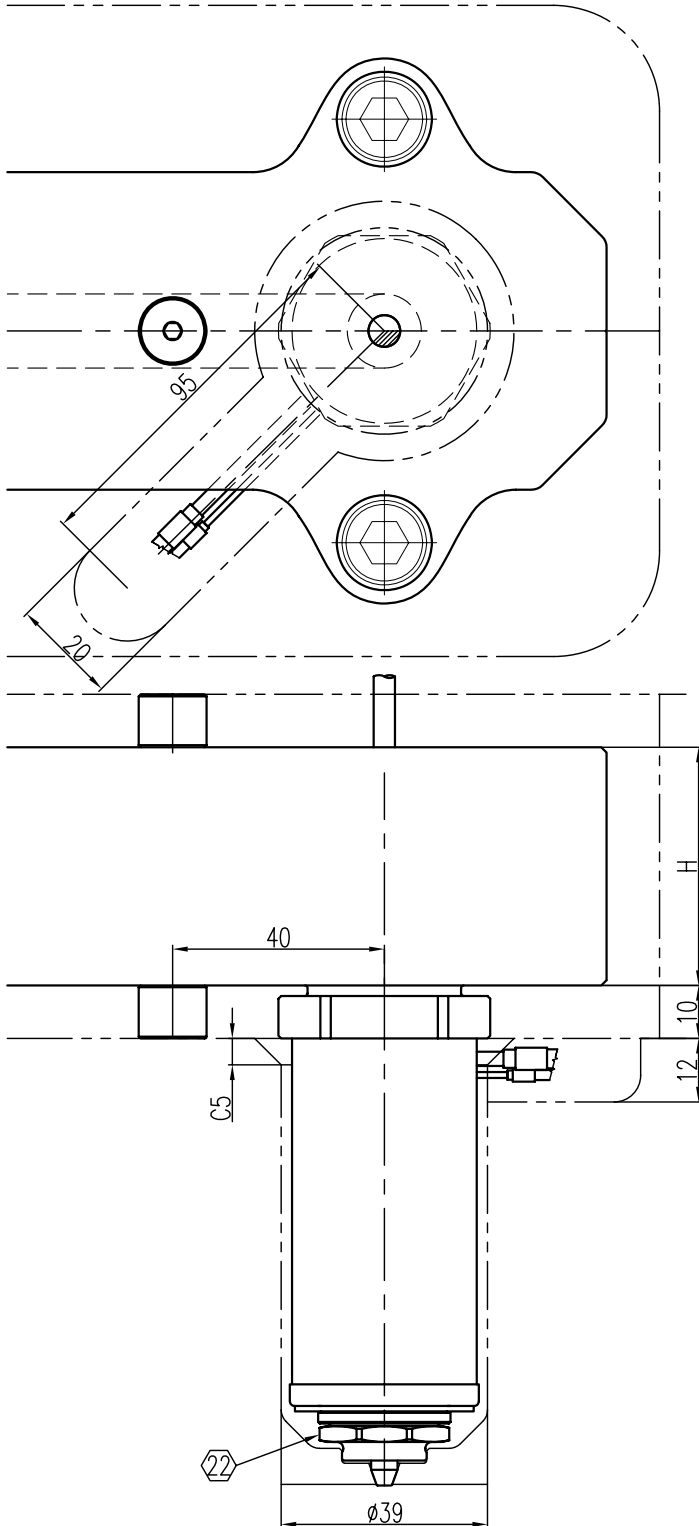
Related to the scope of size (when out of range, special design needed)			
L	H	Gate Ø	Land
50 - 350	50, 55, 60	1,8 - 3,5	8



BXS

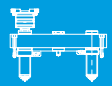
Bi-Met C-Type valve (CV)

- suited for all materials
- use PNC7518 pneumatic cylinder or HYC4016 hydraulic cylinder
- can be used when $A < 10^\circ$



Related to the scope of size (when out of range, special design needed)

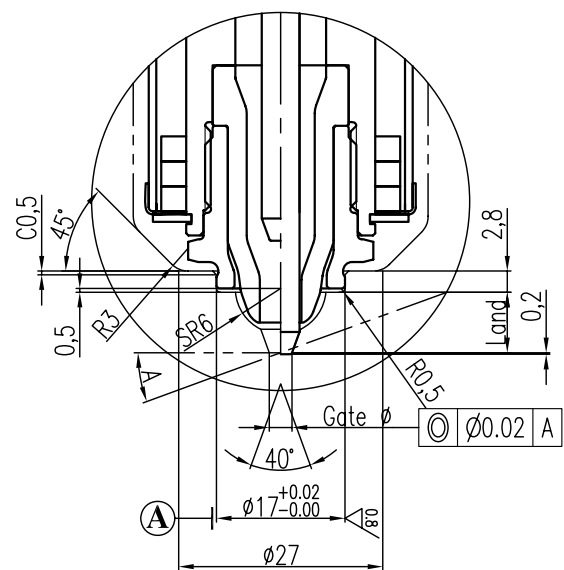
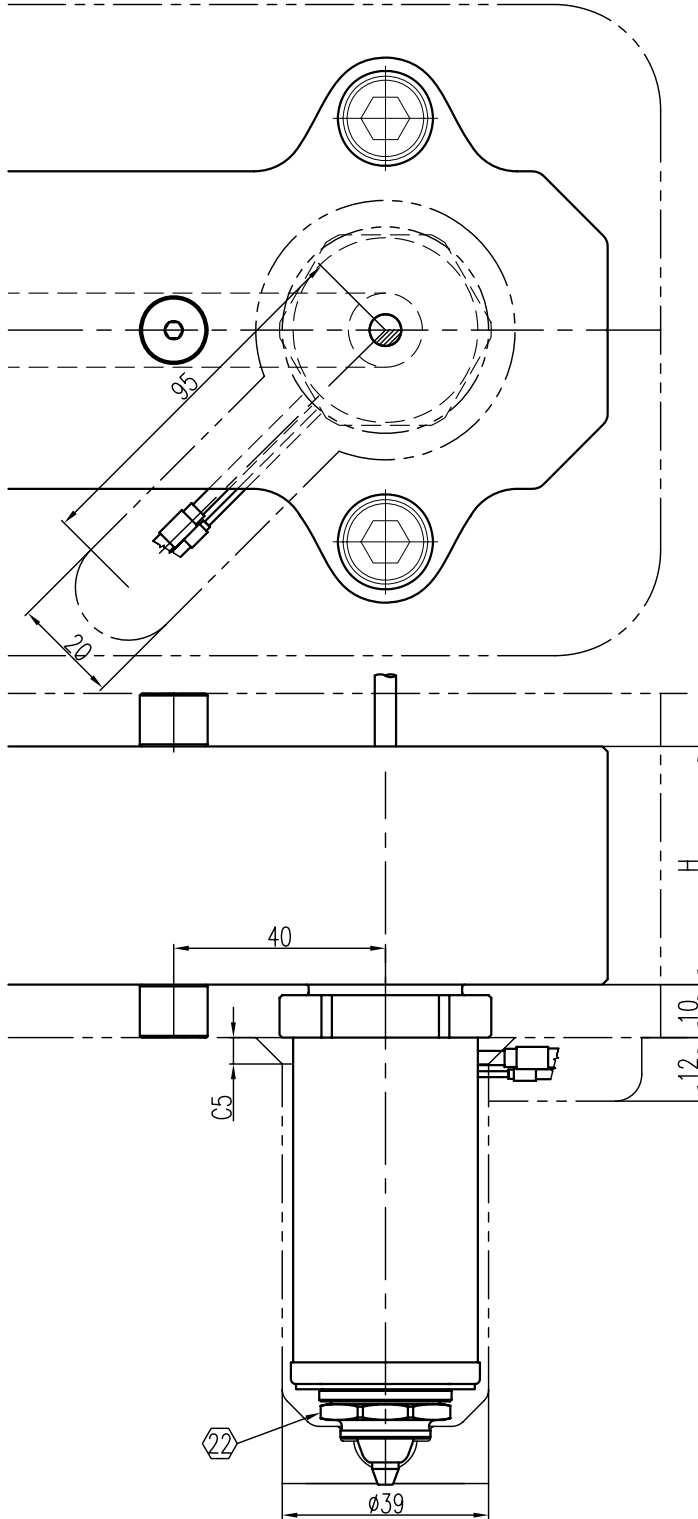
L	H	A	Gate Ø	Land
50 - 350	50, 55, 60	$0^\circ - 10^\circ$	2	4
			3	4



Bi-Met extended C-Type valve (CVE)

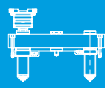
BXS

- suited for all materials
- use PNC7518 pneumatic cylinder or HYC4016 hydraulic cylinder
- can be used when $A < 20^\circ$



Related to the scope of size (when out of range, special design needed)

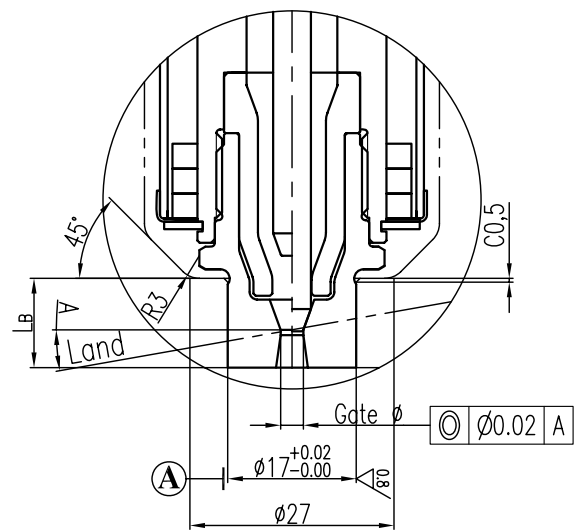
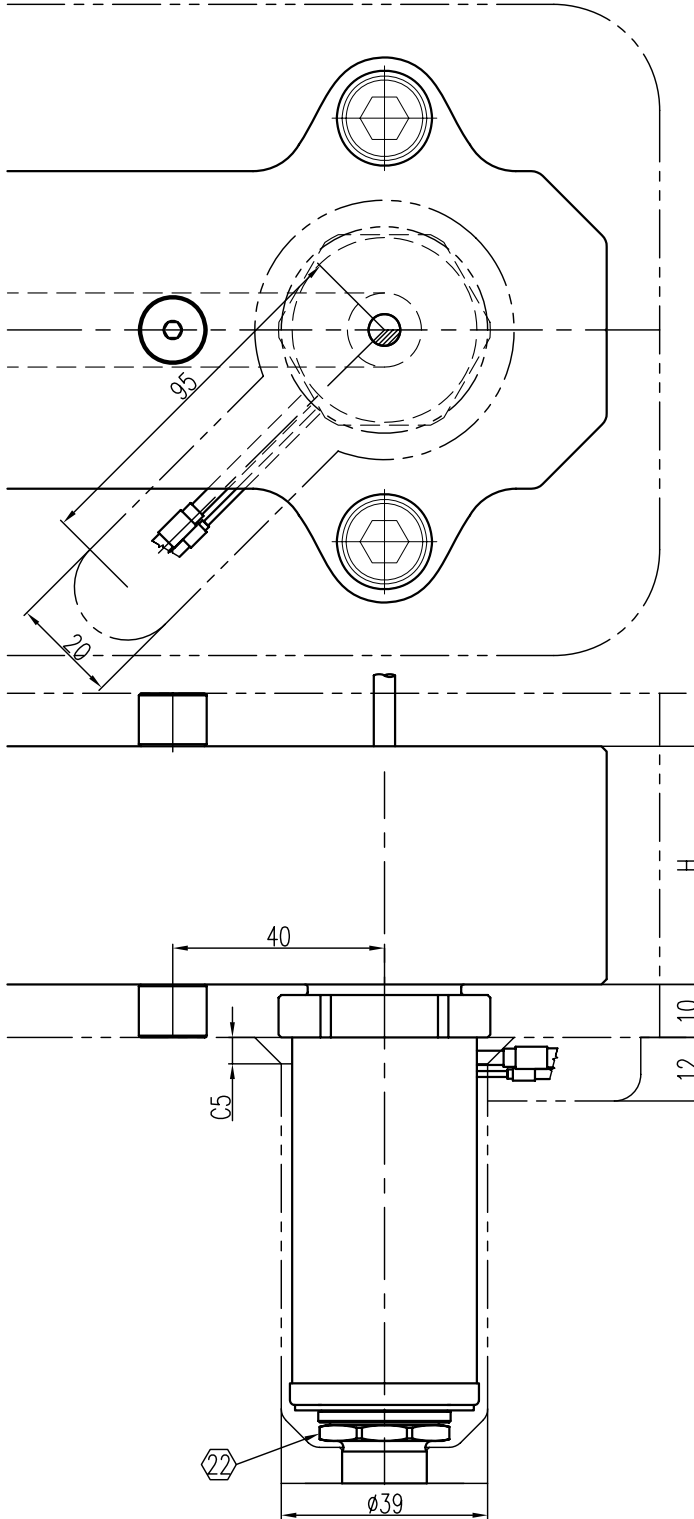
L	H	A	Gate \varnothing	Land
50 - 350	50, 55, 60	$0^\circ - 10^\circ$	2,3	8
		$10^\circ - 20^\circ$	2,3	8,5



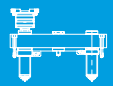
BXS

Bi-Met C-valve with bushing (CVB)

- suited for all materials
- use PNC7518 pneumatic cylinder or HYC4016 hydraulic cylinder
- can be used when $A < 10^\circ$
- simplifies mold manufacturing



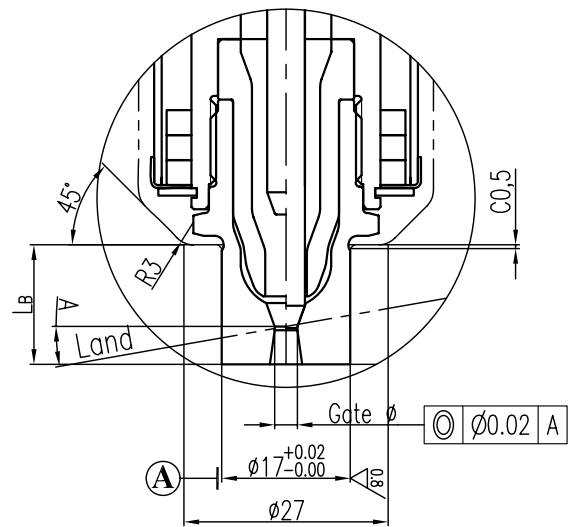
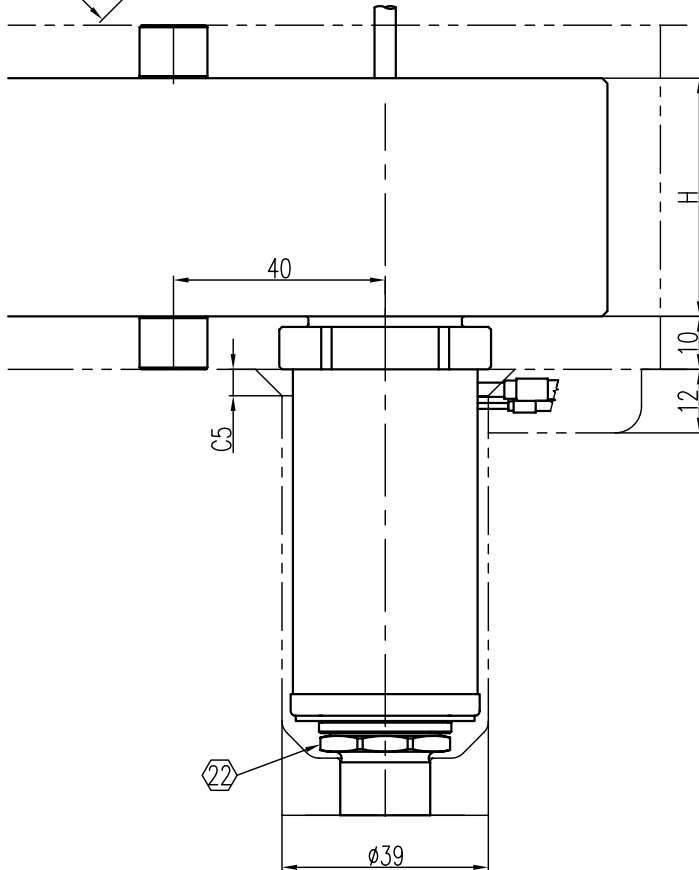
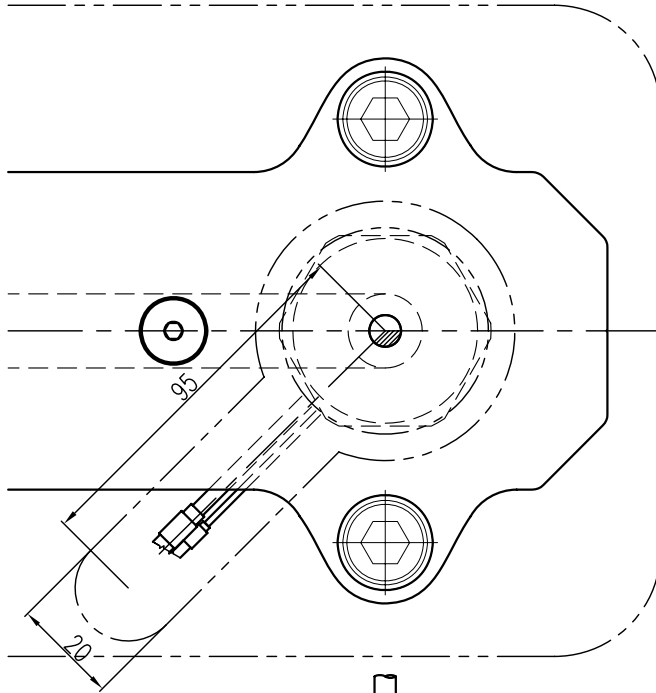
Related to the scope of size (when out of range, special design needed)				
L	H	A	Gate ϕ	Land
50 - 350	50, 55, 60	-	2, 3	6, 8
		$0^\circ - 10^\circ$	2, 3	12



Bi-Met extended C-valve with bushing (CVEB)

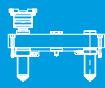
BXS

- suited for all materials
- use PNC7518 pneumatic cylinder or HYC4016 hydraulic cylinder
- can be used when $A < 20^\circ$
- simplifies mold manufacturing



Related to the scope of size (when out of range, special design needed)

L	H	A	Gate Ø	Land
50 - 350	50, 55, 60	-	2, 3	10, 8
		$0^\circ - 20^\circ$	2, 3	16, 0

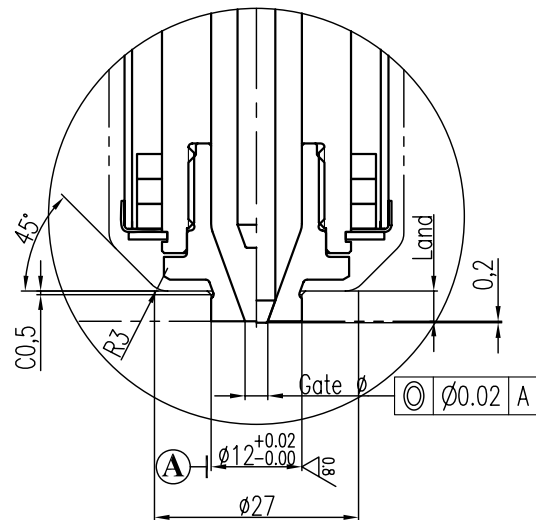
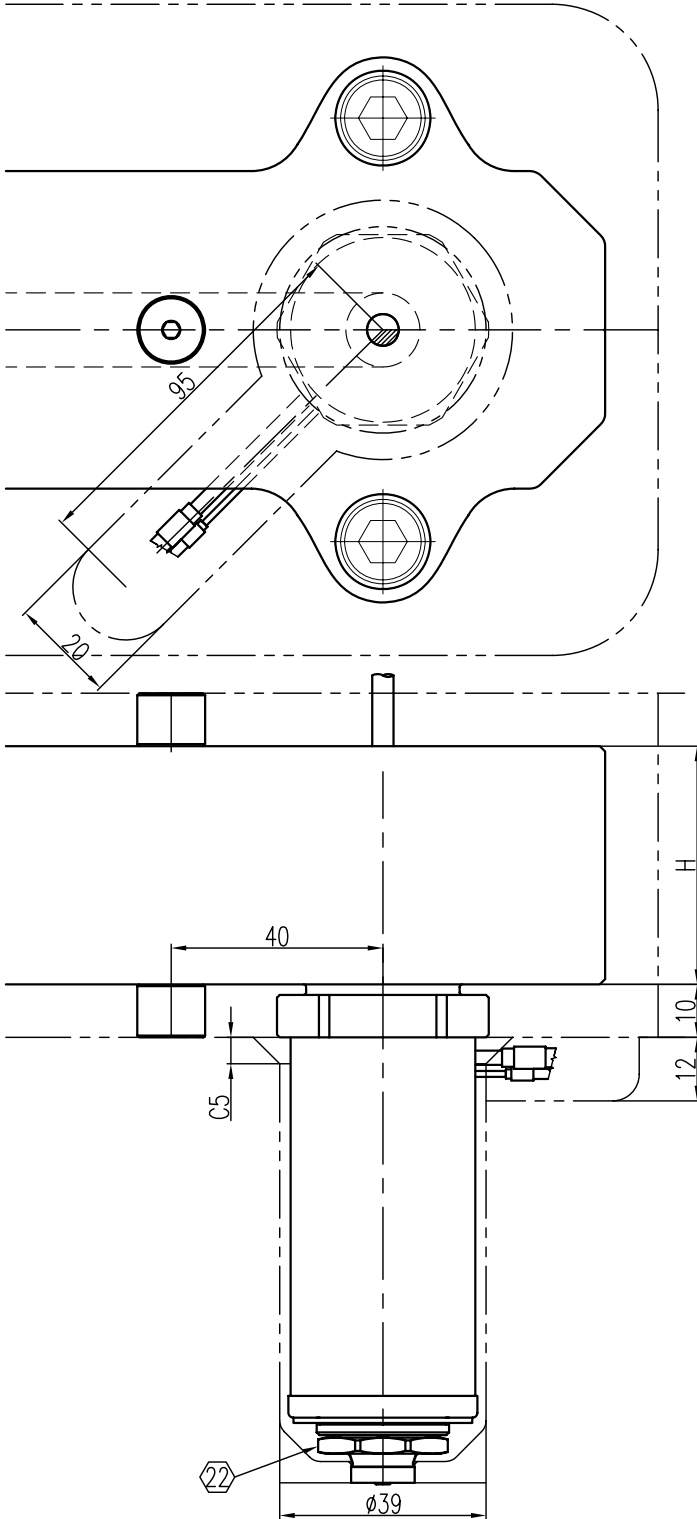


BXS

E-type valve (EV)

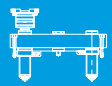


- suited for crystalline materials
- use PNC7518 pneumatic cylinder or HYC4016 hydraulic cylinder
- simplifies mold manufacturing



Related to the scope of size (when out of range, special design needed)

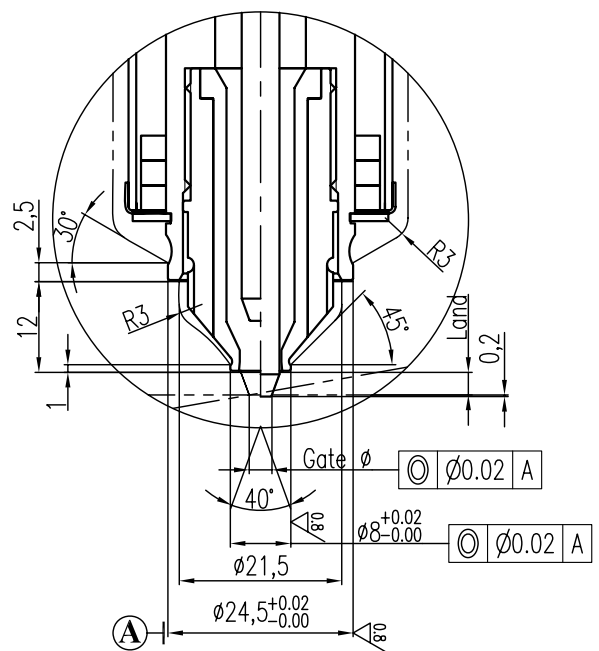
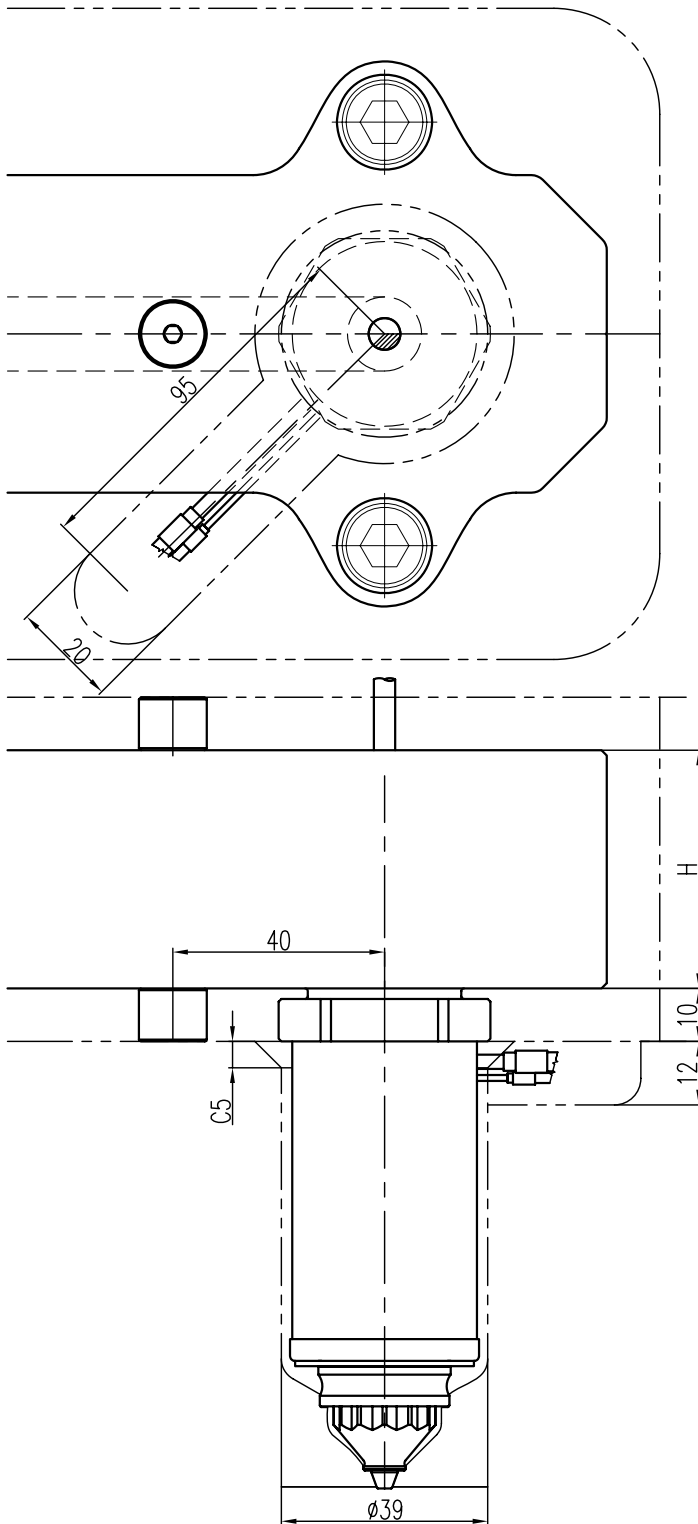
L	H	Gate Ø	Land
50 - 350	50, 55, 60	2	4
		3	4



Bi-Met W-valve (WV)

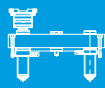
BXS

- suited for low processing temperature amorphous and semi-crystalline materials
- use PNC7518 pneumatic cylinder or HYC4016 hydraulic cylinder
- can be used when $A < 10^\circ$
- especially designed for high friction material



Related to the scope of size (when out of range, special design needed)

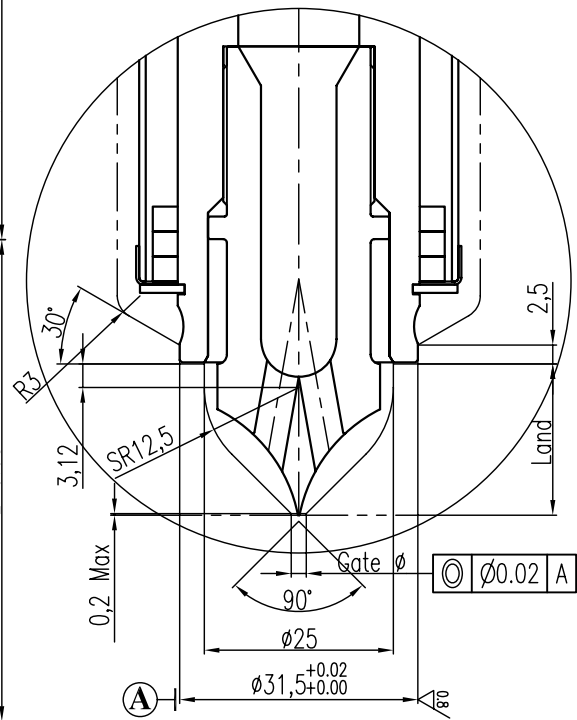
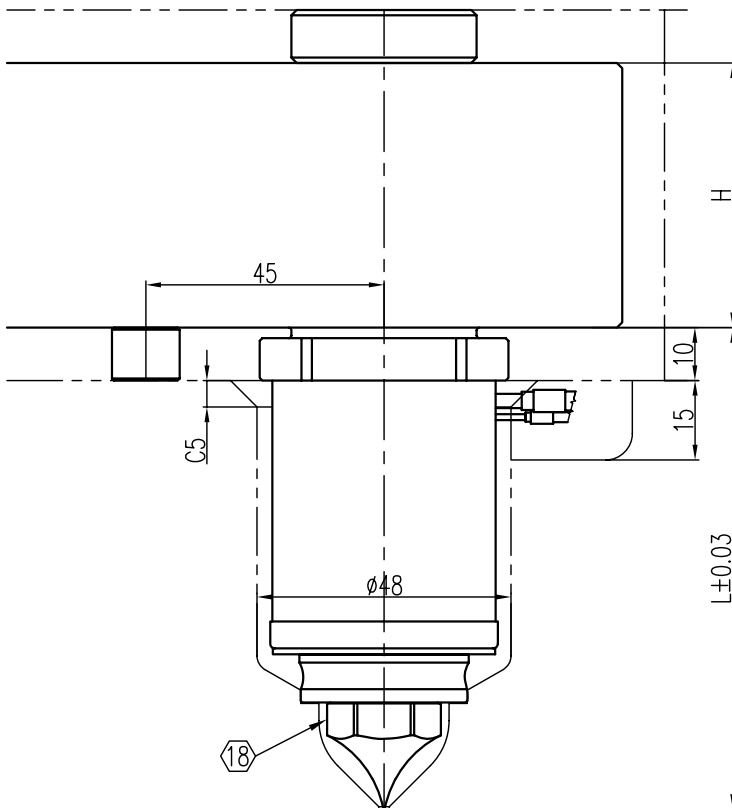
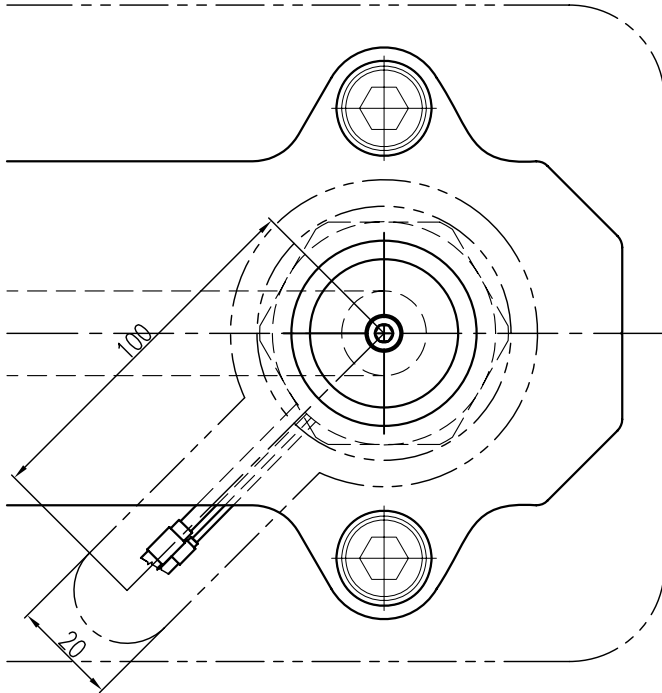
L	H	A	Gate \varnothing	Land
50 - 350	50, 55, 60	$0^\circ - 10^\circ$	2	3,2
			3	3,2



BXS

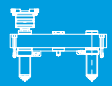
E-type torpedo (ET)

- suited for amorphous and semi-crystalline materials
- not suited for color change



Related to the scope of size (when out of range, special design needed)

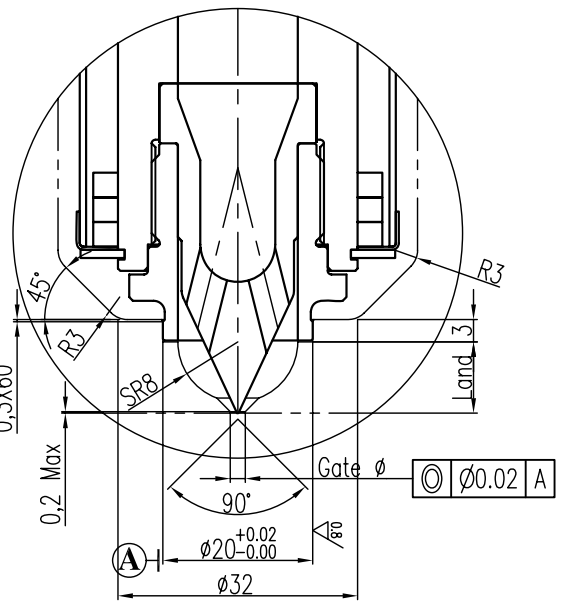
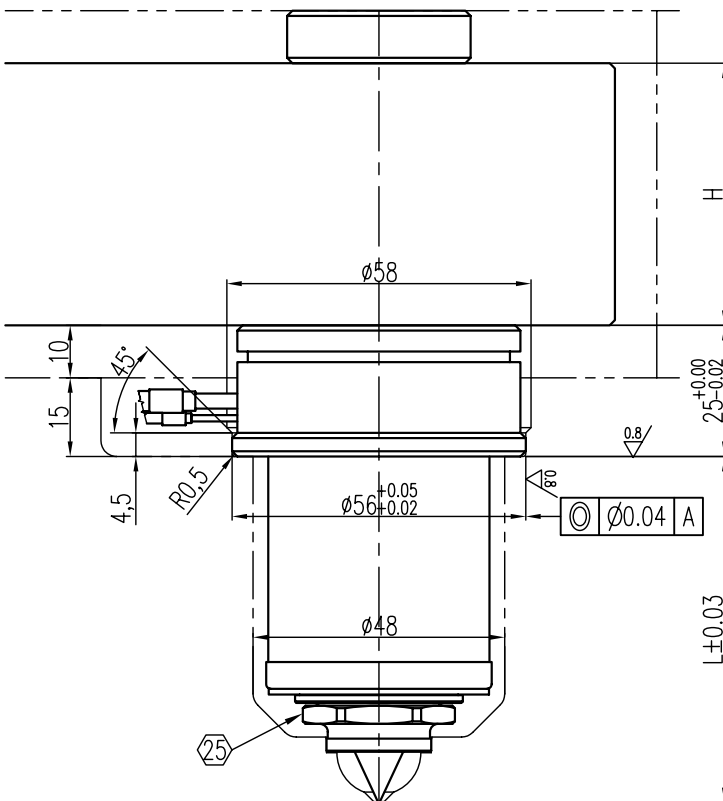
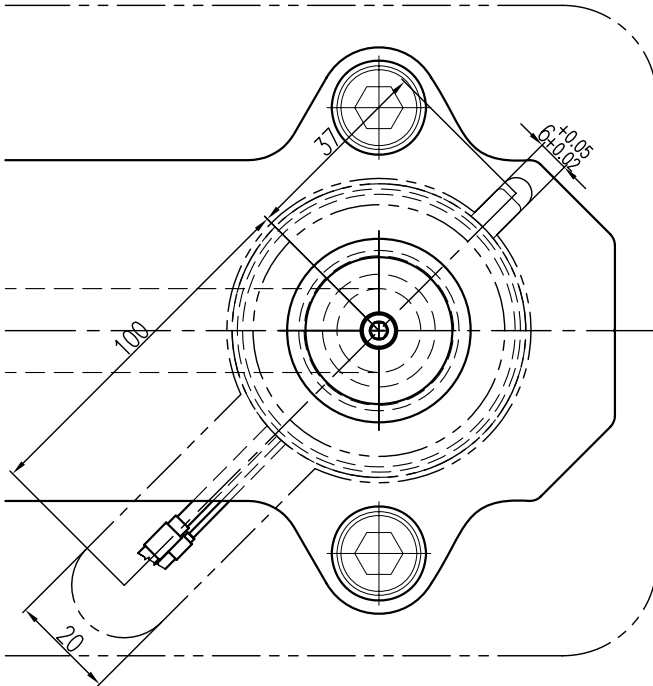
L	H	Gate Ø	Land
60 - 500	55, 60, 65	1,5 - 2,5	20



S-type torpedo (ST)

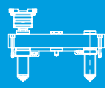
BXS

- suited for amorphous and semi-crystalline materials
- not suited for color change



Related to the scope of size (when out of range, special design needed)

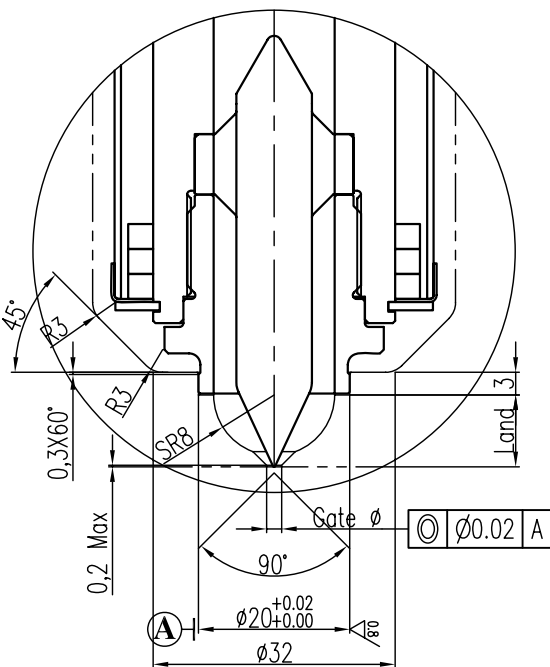
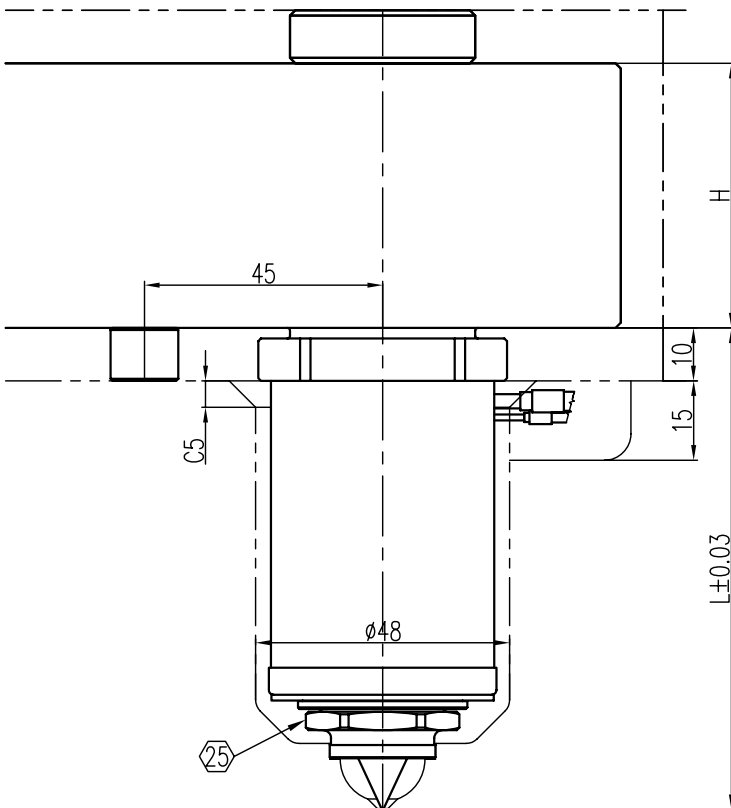
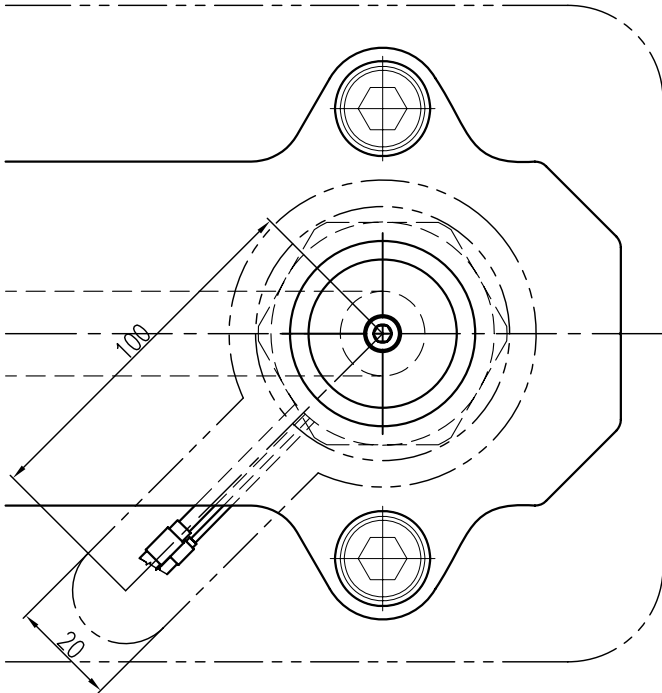
L	H	Gate Ø	Land
50 - 500	55, 60, 65	1,5 - 2,5	9,5



BXS

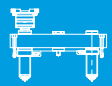
C-type torpedo (CT)

- suited for amorphous and semi-crystalline materials
- suited for color change



Related to the scope of size (when out of range, special design needed)

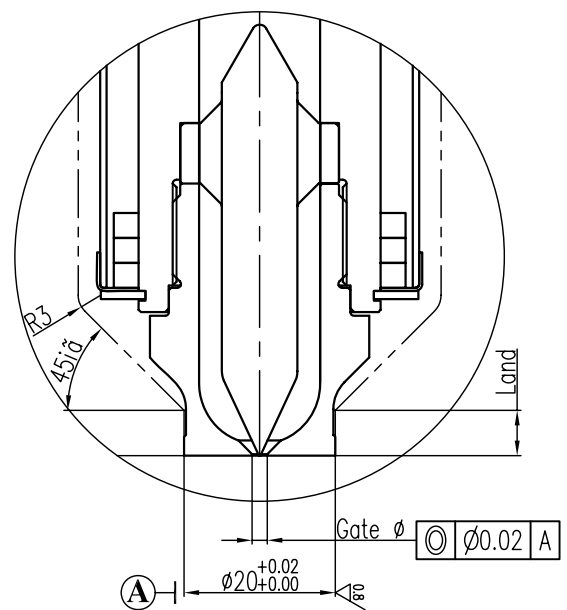
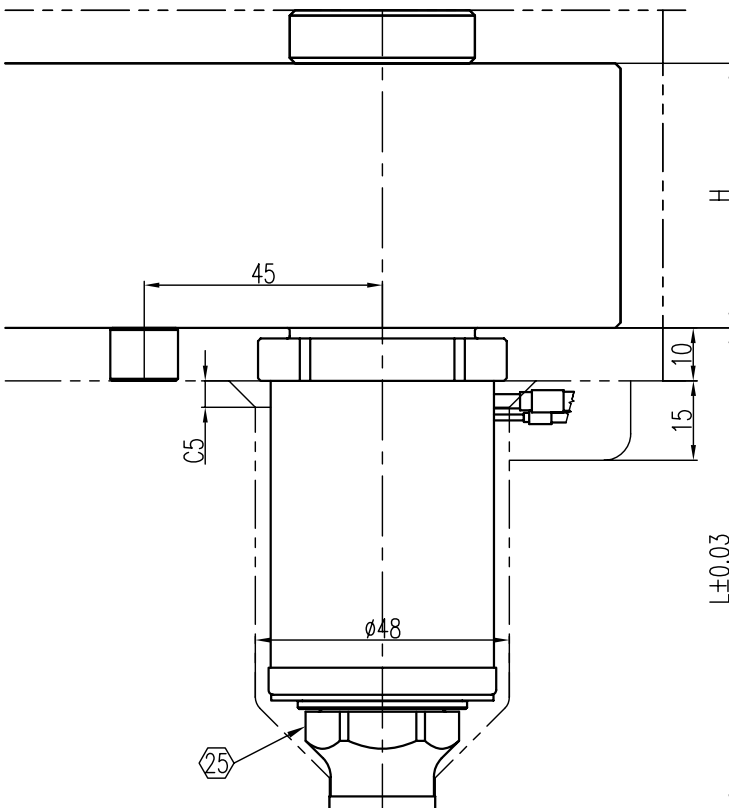
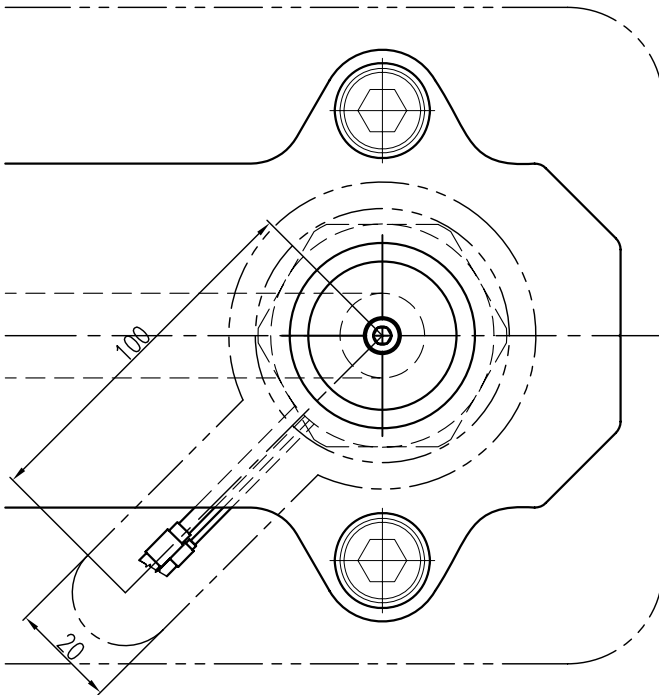
L	H	Gate Ø	Land
50 - 500	55, 60, 65	1,5 - 2,5	9,5



BXS

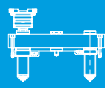
C-type torpedo with bushing (CTB)

- suited for crystalline materials
- simplifies mold manufacturing
- suited for color change



Related to the scope of size (when out of range, special design needed)

L	H	Gate Ø	Land
50 - 500	55, 60, 65	1,5 - 2,5	6

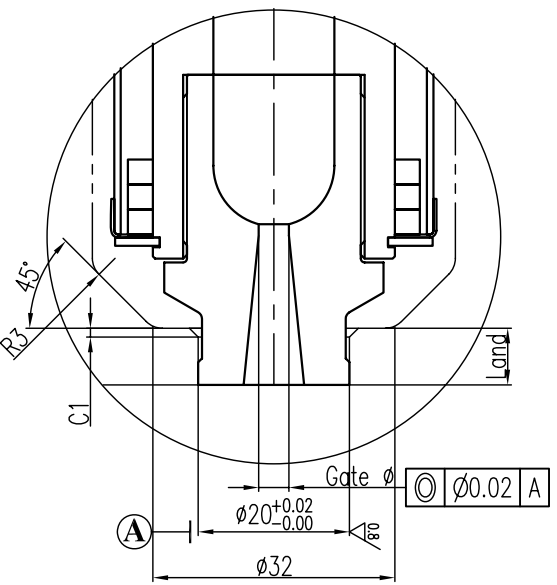
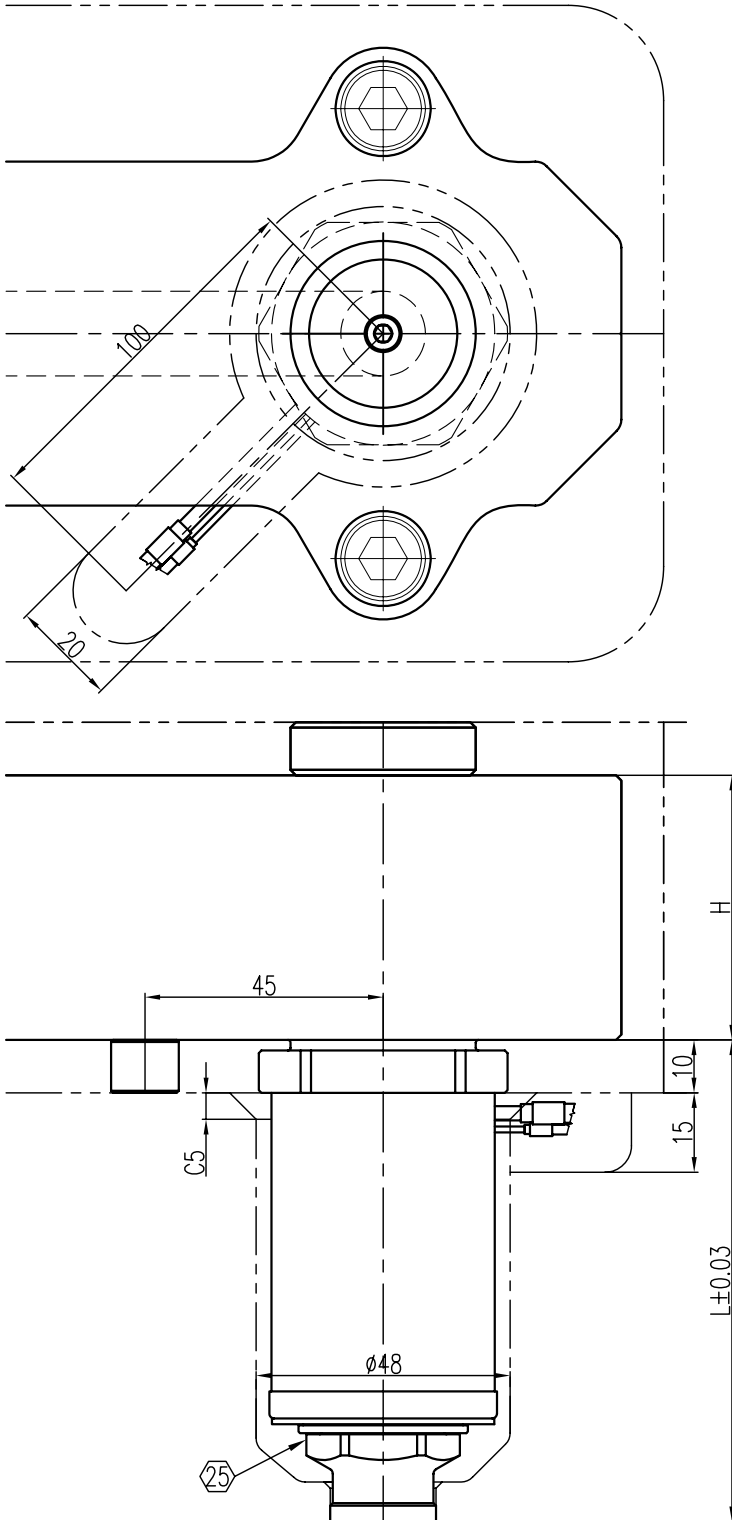


BXS

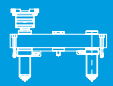
Hot Sprue (HS)



- suited for all materials
- gating into the sub runners
- nozzle profile adjustments by the moldmaker required



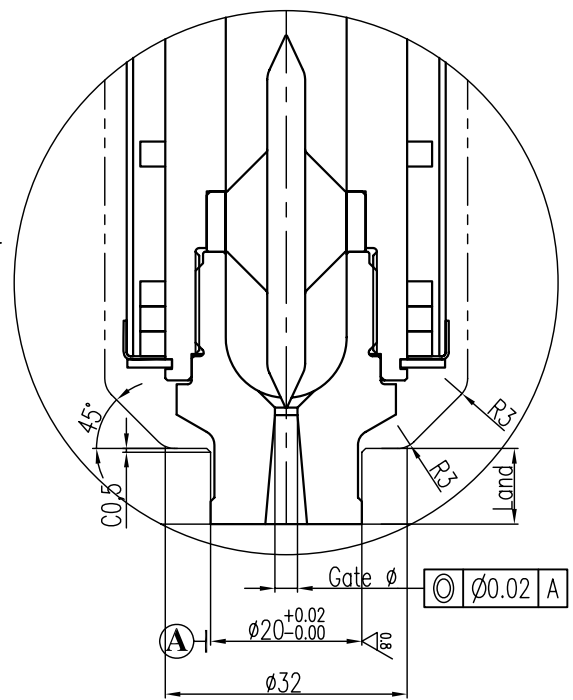
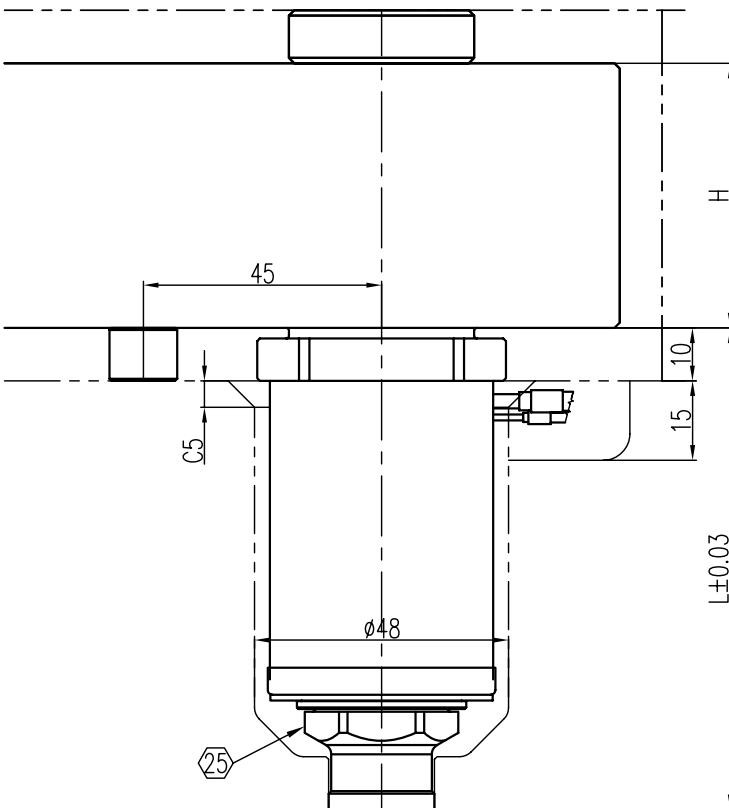
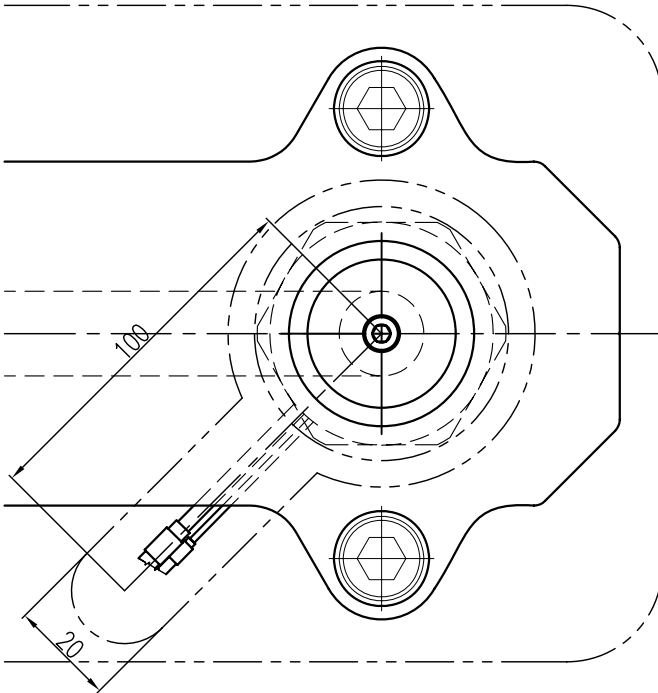
Related to the scope of size (when out of range, special design needed)			
L	H	Gate Ø	Land
50 - 500	55, 60, 65	1,5 - 5,0	7,5



Torpedo bushing (TB)

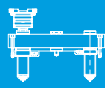
BXS

- designed for high processing temperature engineering materials
- gating into the sub runners
- nozzle profile adjustments by the moldmaker required



Related to the scope of size (when out of range, special design needed)

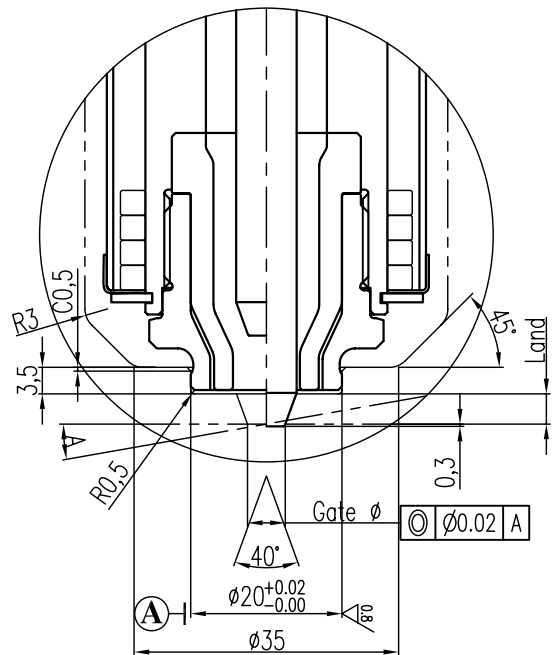
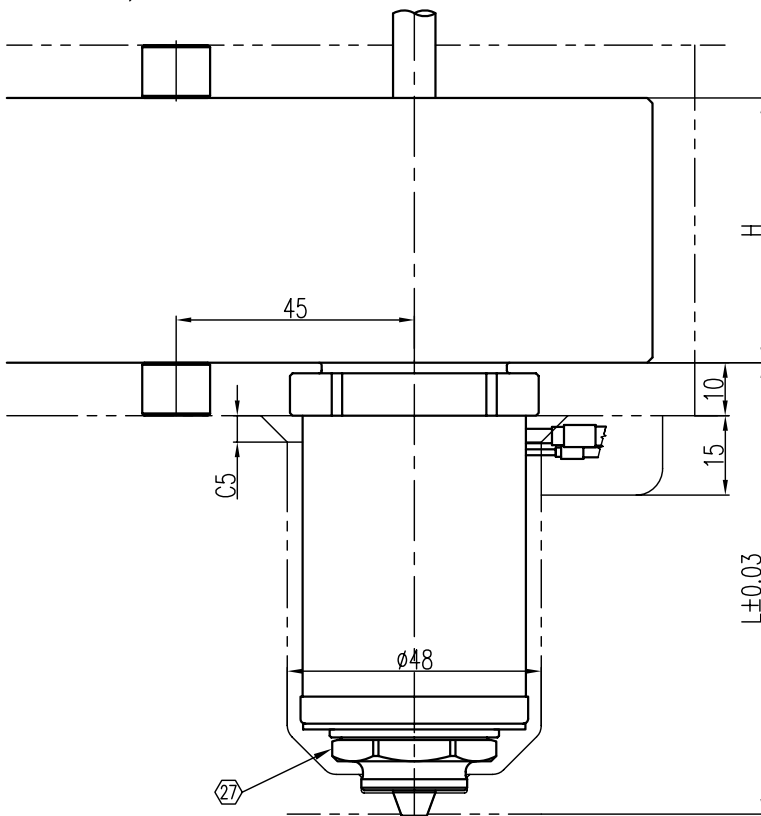
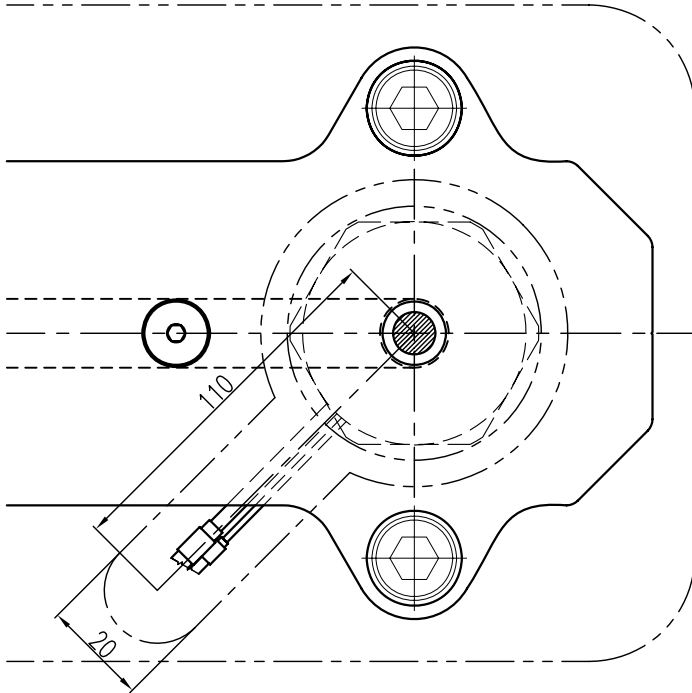
L	H	Gate Ø	Land
50 - 500	55, 60, 65	2 - 5	10



BXS

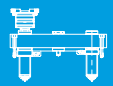
Bi-Met C-Type valve (CV)

- suited for all materials
- use PNC7518 pneumatic cylinder or HYC4016 hydraulic cylinder
- can be used when $A < 10^\circ$



Related to the scope of size (when out of range, special design needed)

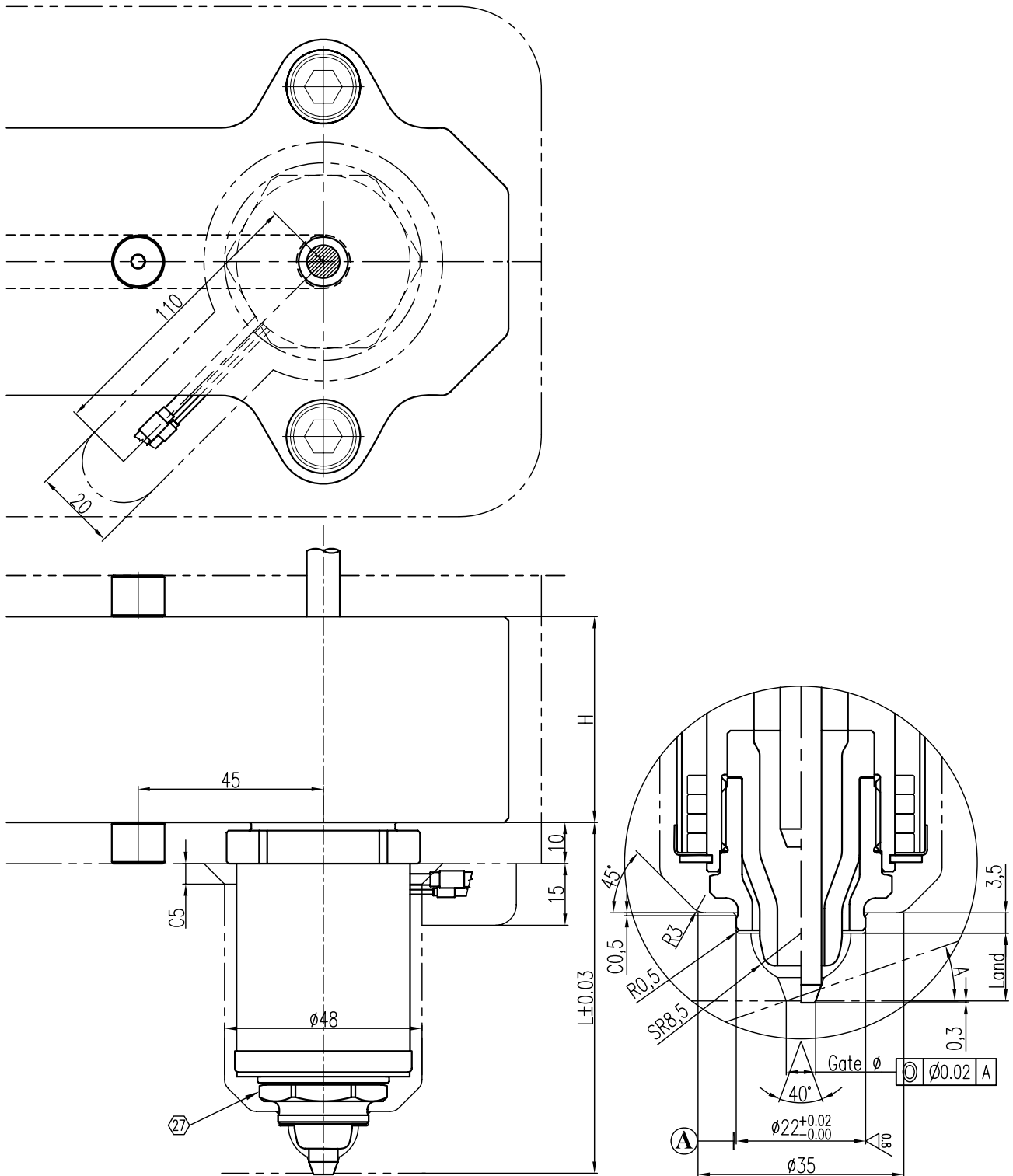
L	H	A	Gate Ø	Land
50 - 500	55, 60, 65	0° - 10°	3	4
			4	4
			5	4



Bi-Met extended C-Type valve (CVE)

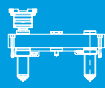
BXS

- suited for all materials
- use PNC7518 pneumatic cylinder or HYC4016 hydraulic cylinder
- can be used when $A < 20^\circ$



Related to the scope of size (when out of range, special design needed)

L	H	A	Gate \varnothing	Land
60 - 500	55, 60, 65	$0^\circ - 10^\circ$	3, 4, 5	11,5
		$10^\circ - 20^\circ$	3, 4, 5	12,2

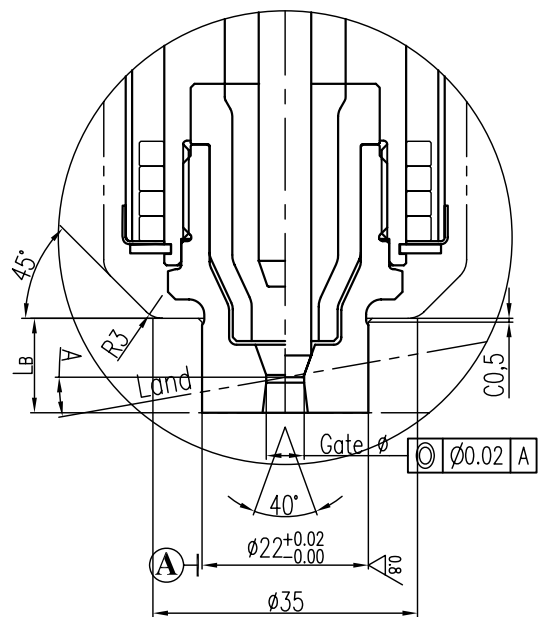
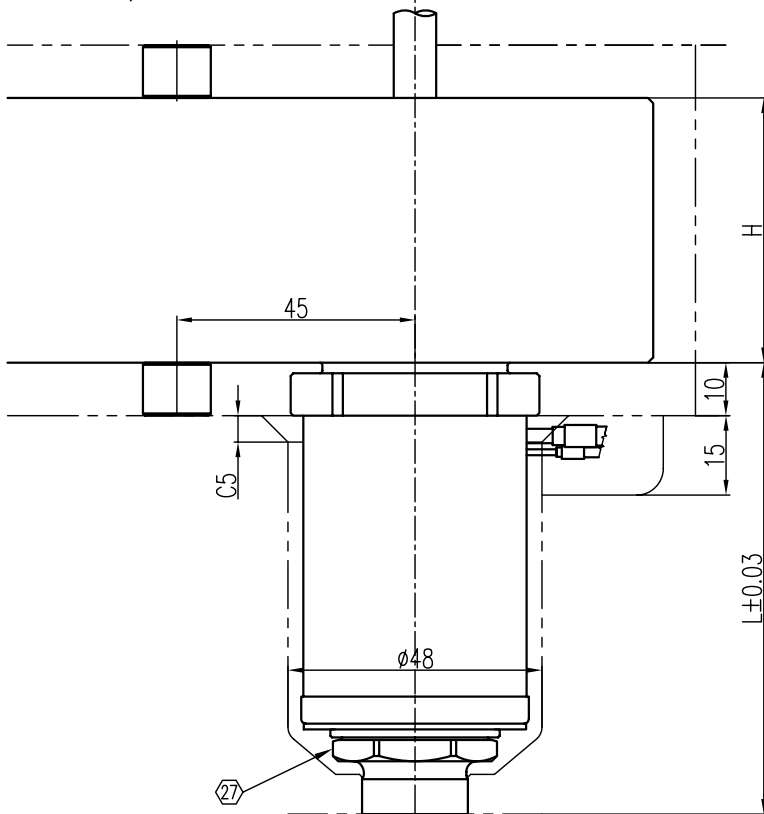
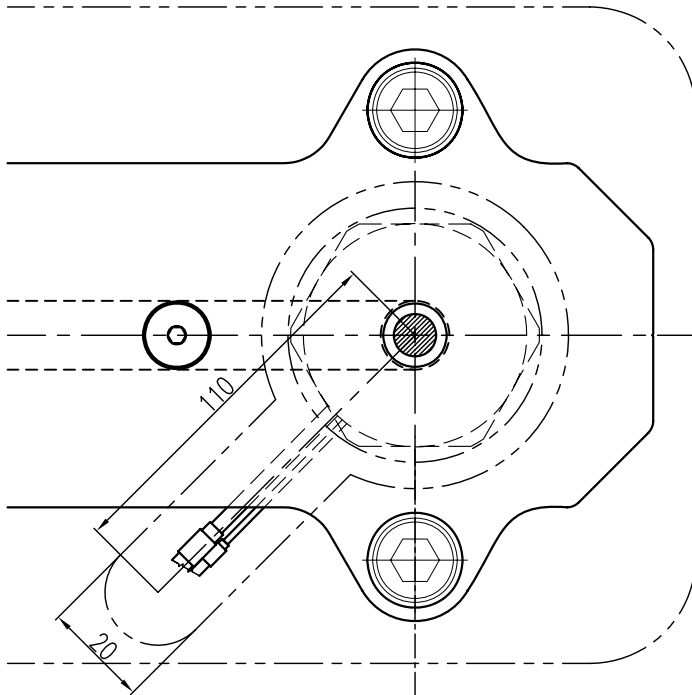


BXS

Bi-Met C-valve with bushing (CVB)

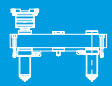


- suited for all materials
- use PNC7518 pneumatic cylinder or HYC4016 hydraulic cylinder
- can be used when $A < 10^\circ$
- simplifies mold manufacturing



Related to the scope of size (when out of range, special design needed)

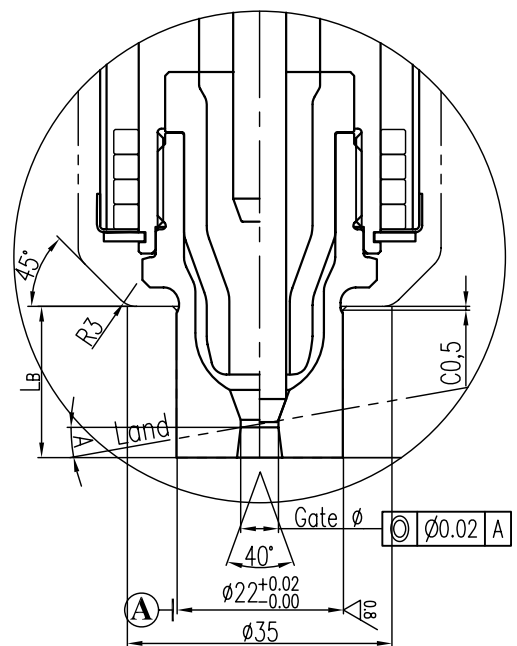
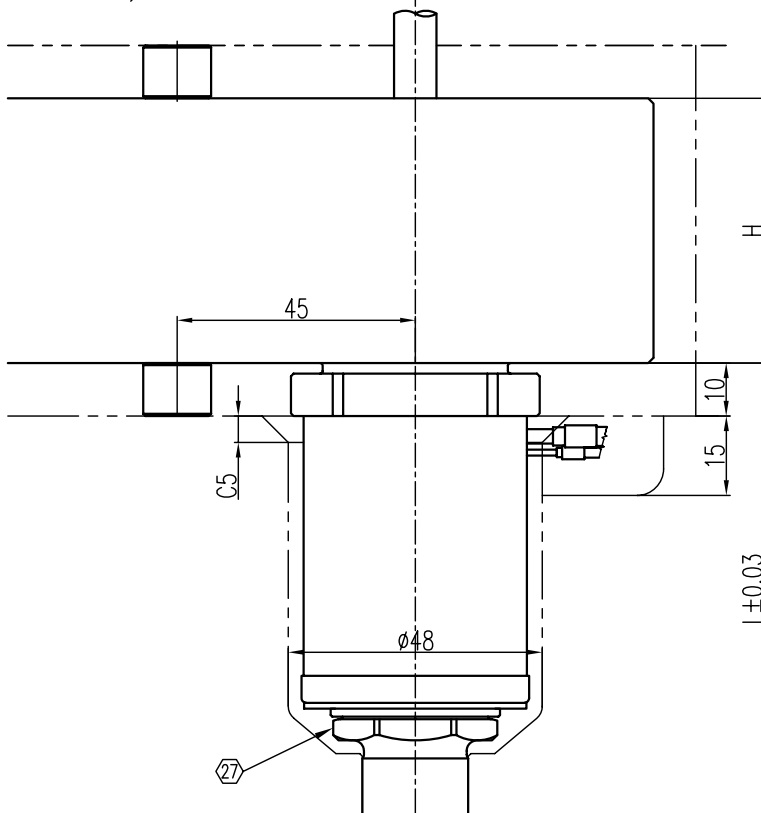
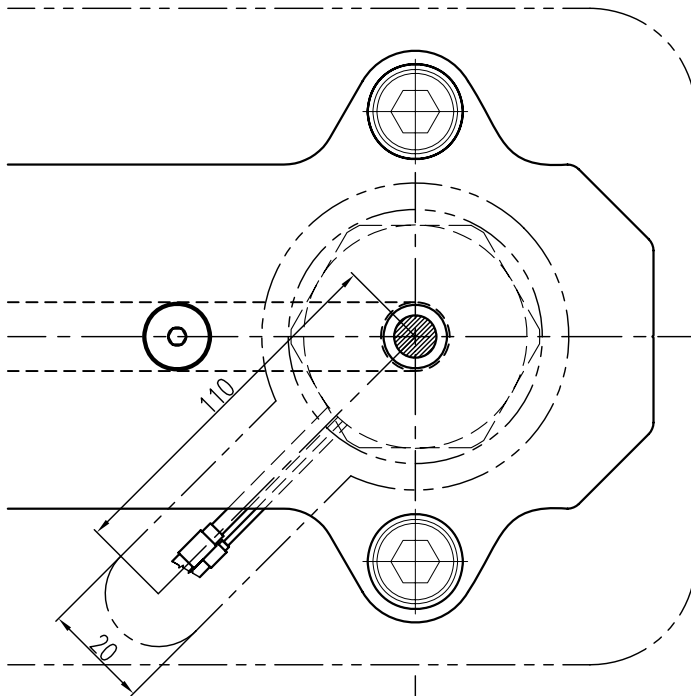
L	H	A	Gate Ø	L _B
60 - 500	55, 60, 65	-	3, 4, 5	7, 5
		0° - 10°	3, 4, 5	12, 5



BXS

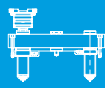
Bi-Met extended C-valve with bushing (CVEB)

- suited for all materials
- use PNC7518 pneumatic cylinder or HYC4016 hydraulic cylinder
- can be used when $A < 20^\circ$
- simplifies mold manufacturing



Related to the scope of size (when out of range, special design needed)

L	H	A	Gate Ø	L _B
60 - 500	55, 60, 65	-	3, 4, 5	15
		0° - 20°	3, 4, 5	20

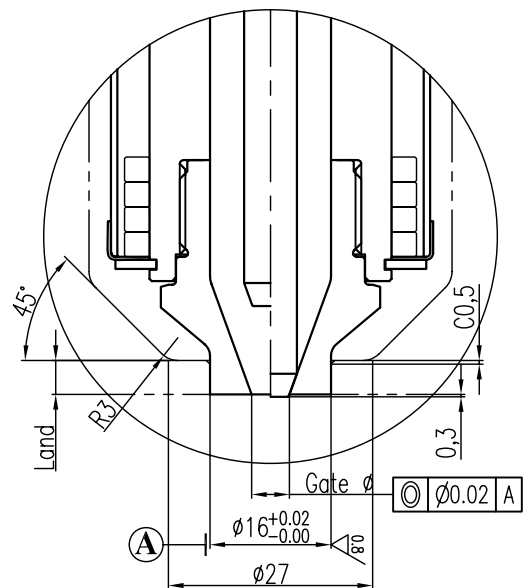
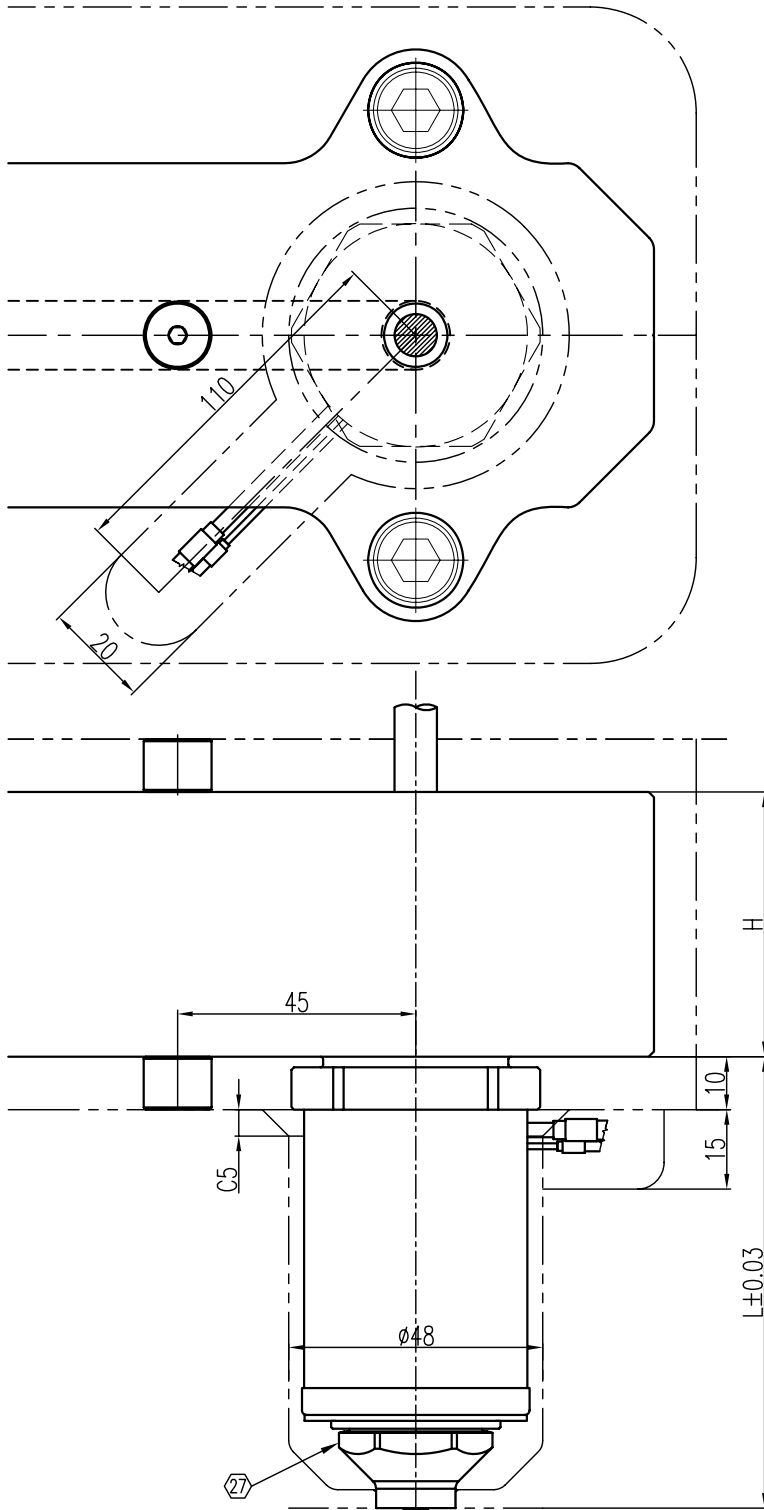


BXS

E-type valve (EV)

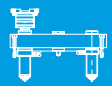


- suited for crystalline materials
- use PNC7518 pneumatic cylinder or HYC4016 hydraulic cylinder
- simplifies mold manufacturing



Related to the scope of size (when out of range, special design needed)

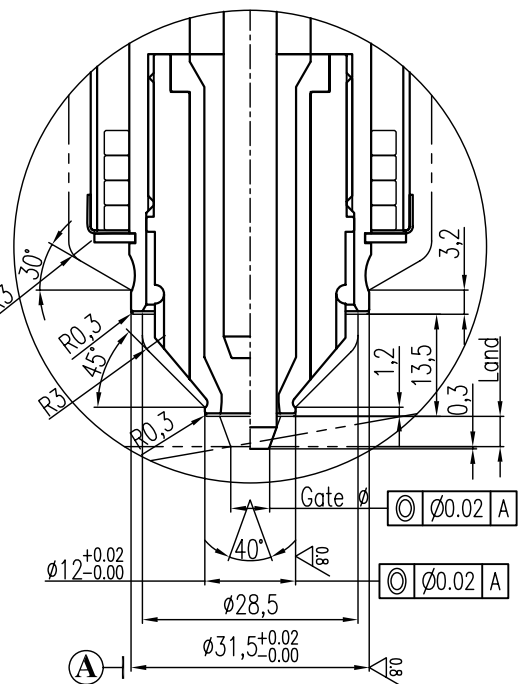
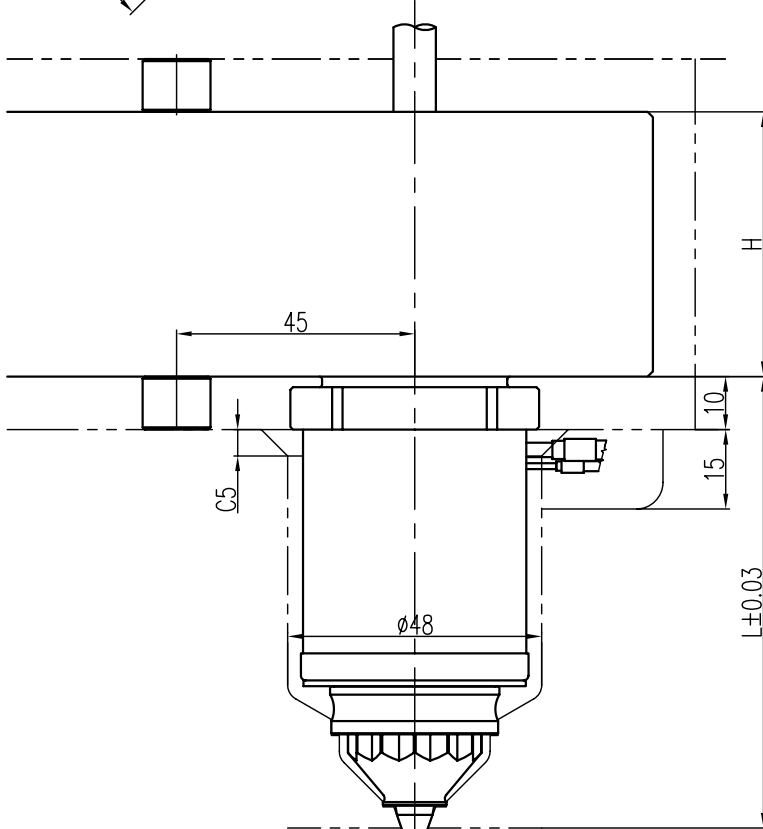
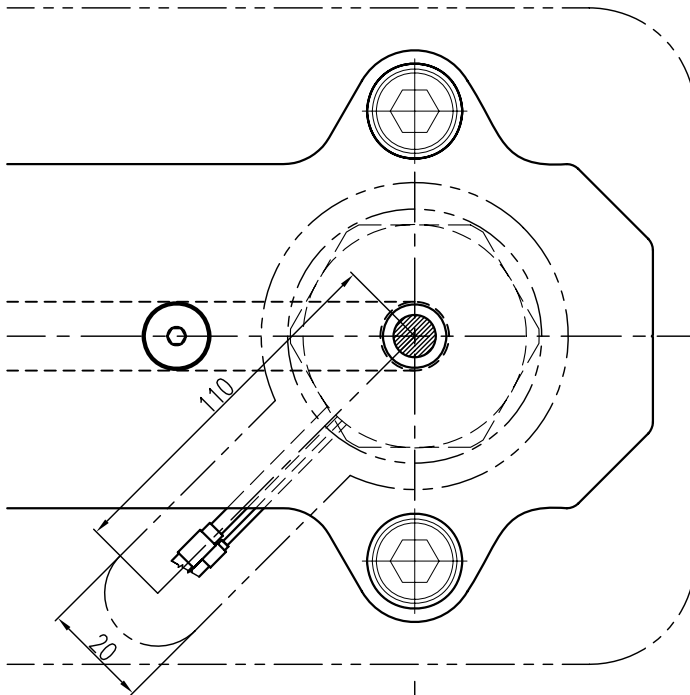
L	H	Gate Ø	Land
50 - 500	55, 60, 65	3	4,5
		4	4,5
		5	4,5



Bi-Met W-valve (WV)

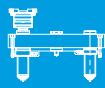
BXS

- suited for low processing temperature amorphous and semi-crystalline materials
- use PNC7518 pneumatic cylinder or HYC4016 hydraulic cylinder
- can be used when $A < 10^\circ$
- especially designed for high friction material



Related to the scope of size (when out of range, special design needed)

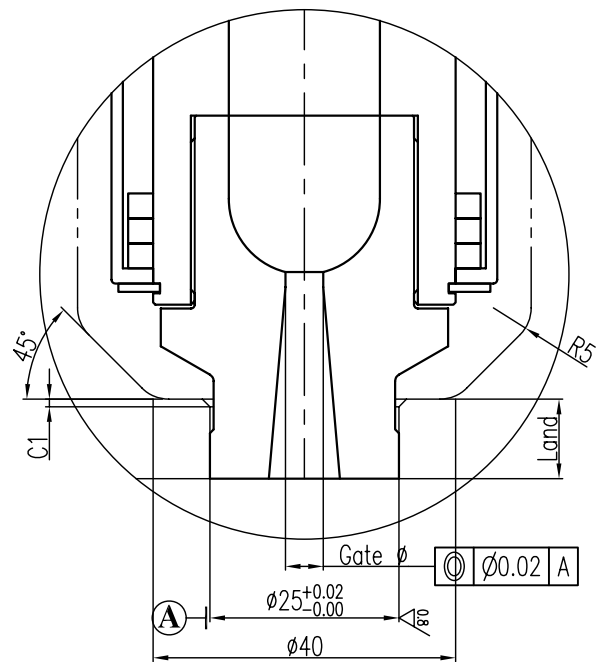
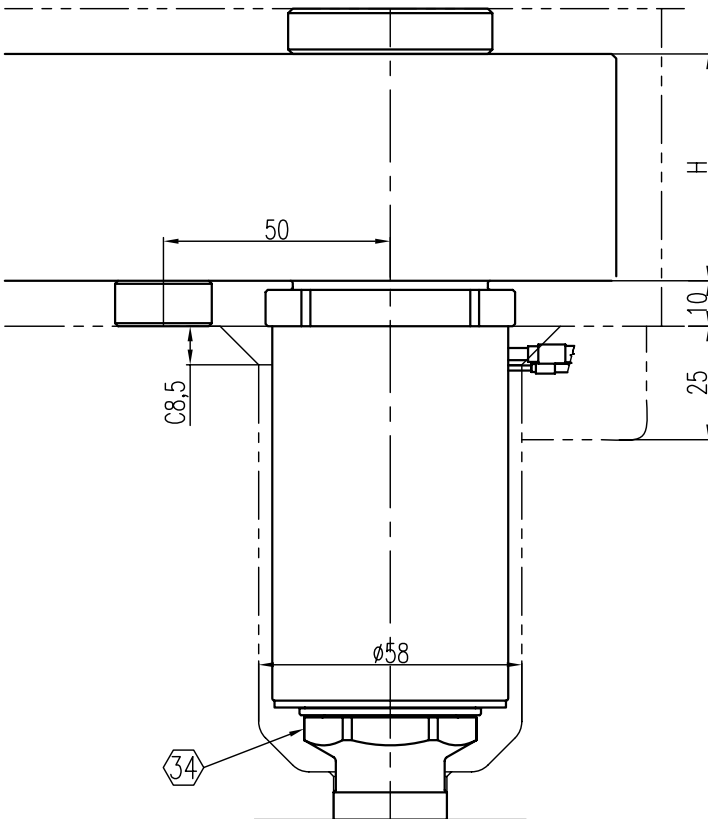
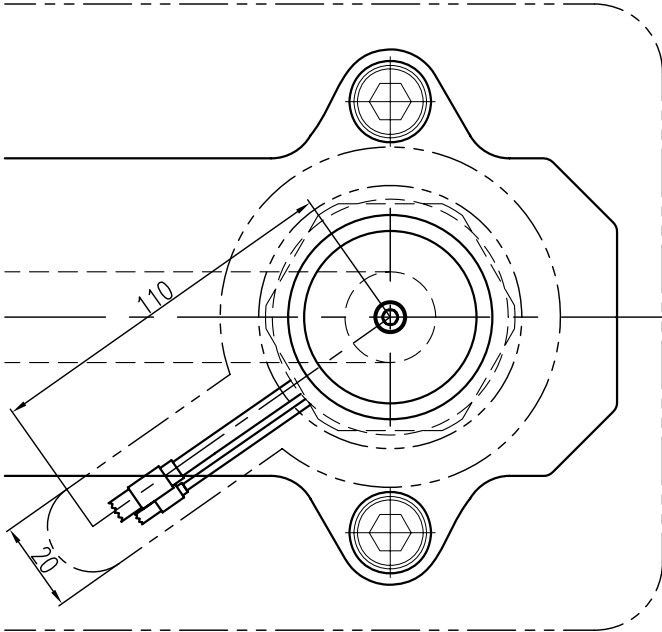
L	H	A	Gate \varnothing	Land
60 - 500	55, 60, 65	$0^\circ - 10^\circ$	3	4
			4	4
			5	4



BXS

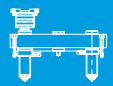
Hot Sprue (HS)

- suited for all materials
- gating into the sub runners
- nozzle profile adjustments by the moldmaker required



Related to the scope of size (when out of range, special design needed)

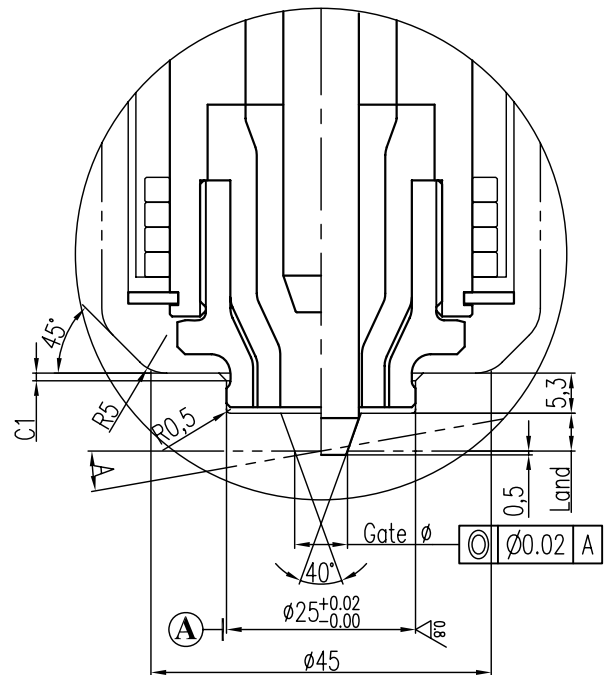
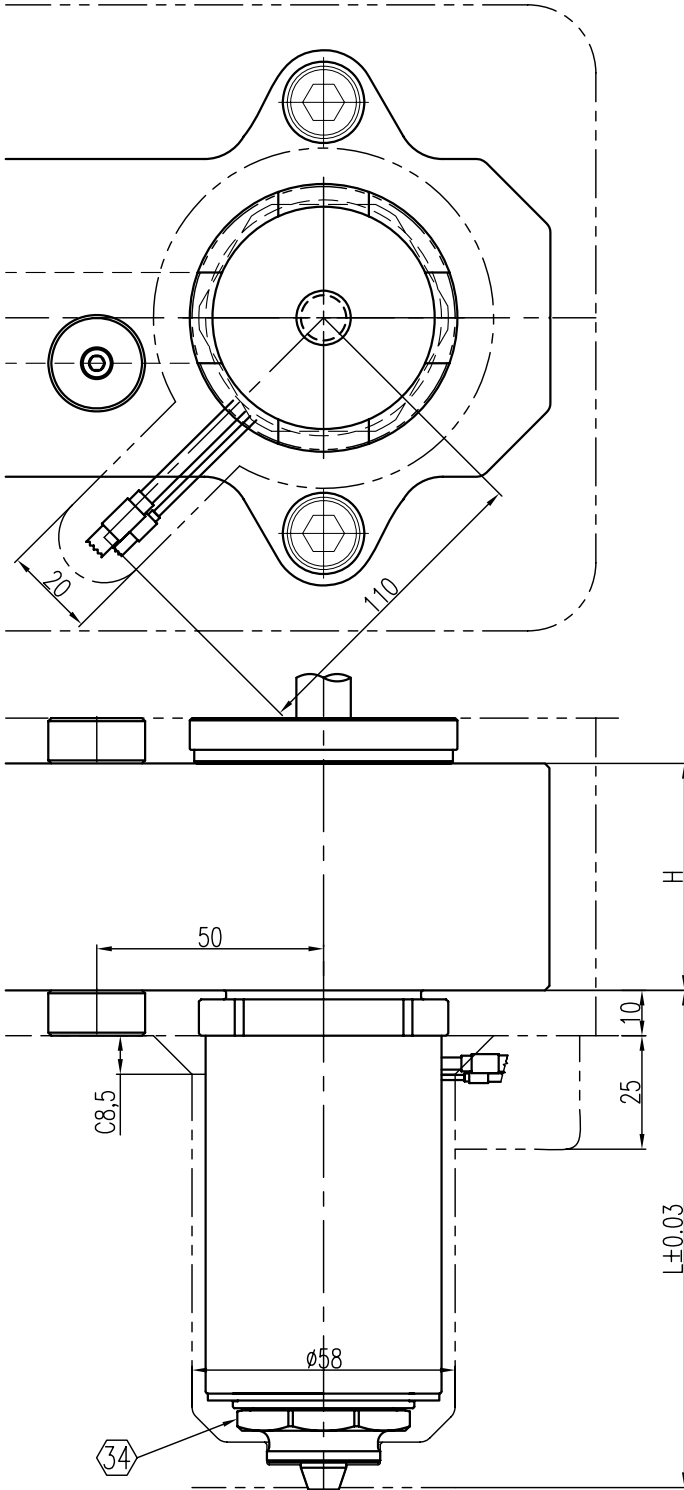
L	H	Gate Ø	Land
60 - 600	65,70	2 - 6	10,5



BXS

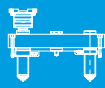
Bi-Met C-Type valve (CV)

- suited for all materials
- use PNC7518 pneumatic cylinder or HYC4016 hydraulic cylinder
- can be used when $A < 10^\circ$



Related to the scope of size (when out of range, special design needed)

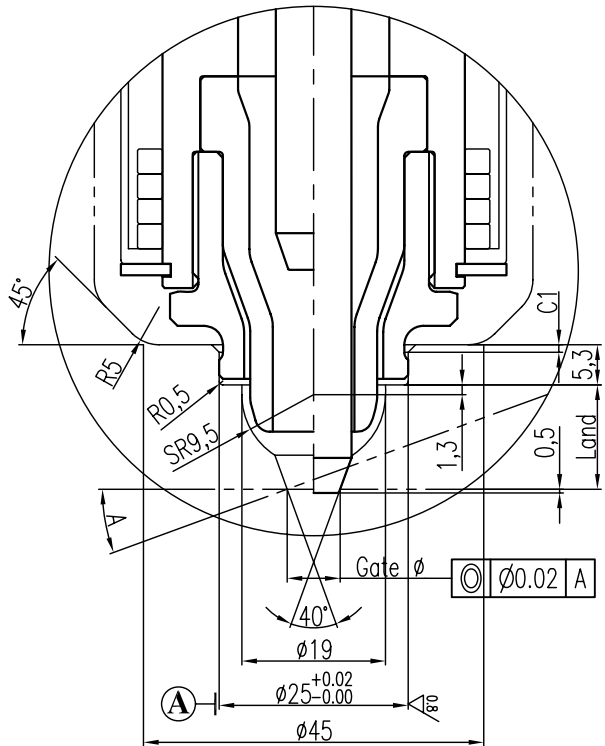
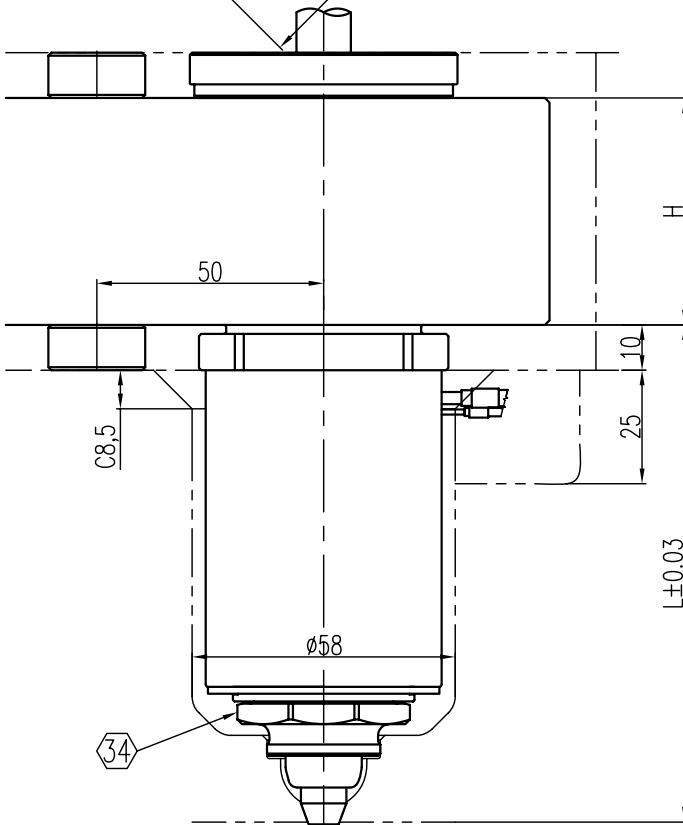
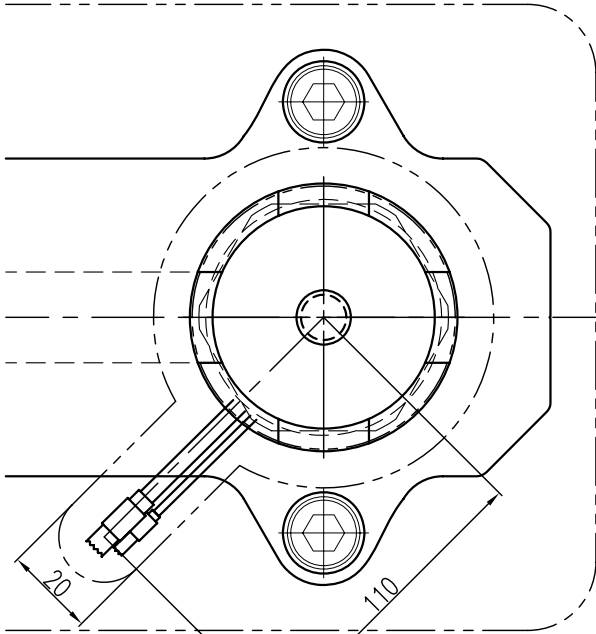
L	H	A	Gate Ø	Land
60 - 600	65,70	0° - 10°	5	5
			6	5
			7	5



BXS

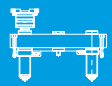
Bi-Met extended C-Type valve (CVE)

- suited for all materials
- use PNC7518 pneumatic cylinder or HYC4016 hydraulic cylinder
- can be used when $A < 20^\circ$



Related to the scope of size (when out of range, special design needed)

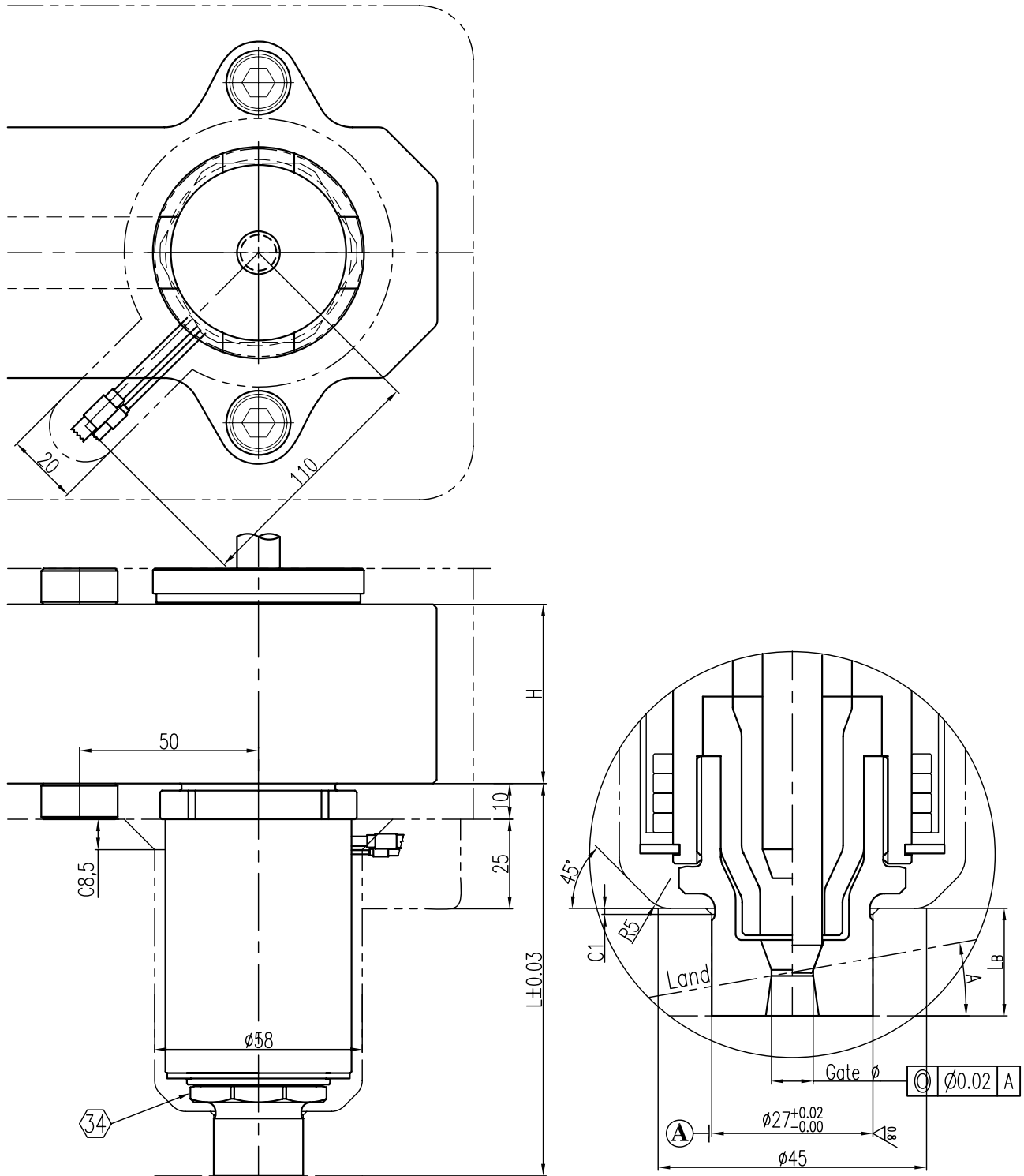
L	H	A	Gate Ø	Land
60 - 600	65,70	0° - 10°	5,6,7	14,0
		10° - 20°	5,6,7	15,2



BXS

Bi-Met C-valve with bushing (CVB)

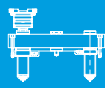
- suited for all materials
- use PNC7518 pneumatic cylinder or HYC4016 hydraulic cylinder
- can be used when $A < 10^\circ$
- simplifies mold manufacturing



Related to the scope of size (when out of range, special design needed)

L	H	A	Gate Ø	Land
60 - 600	65,70	-	5,6,7	10,3
		$0^\circ - 10^\circ$	5,6,7	18,0

22/12/2010

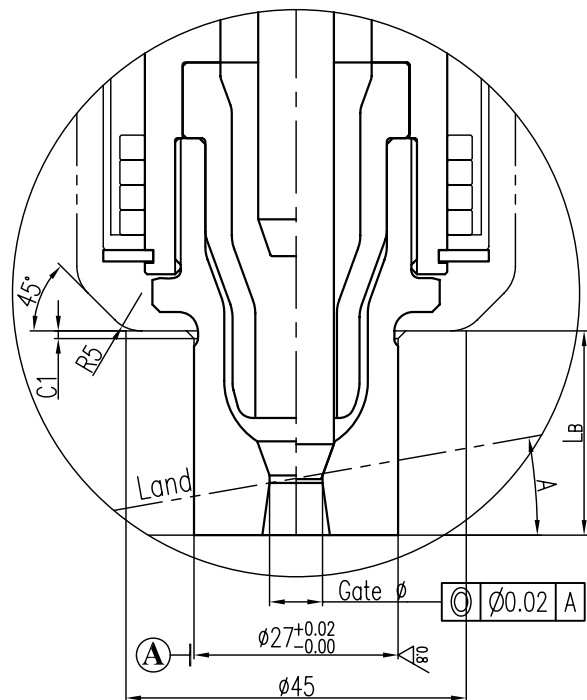
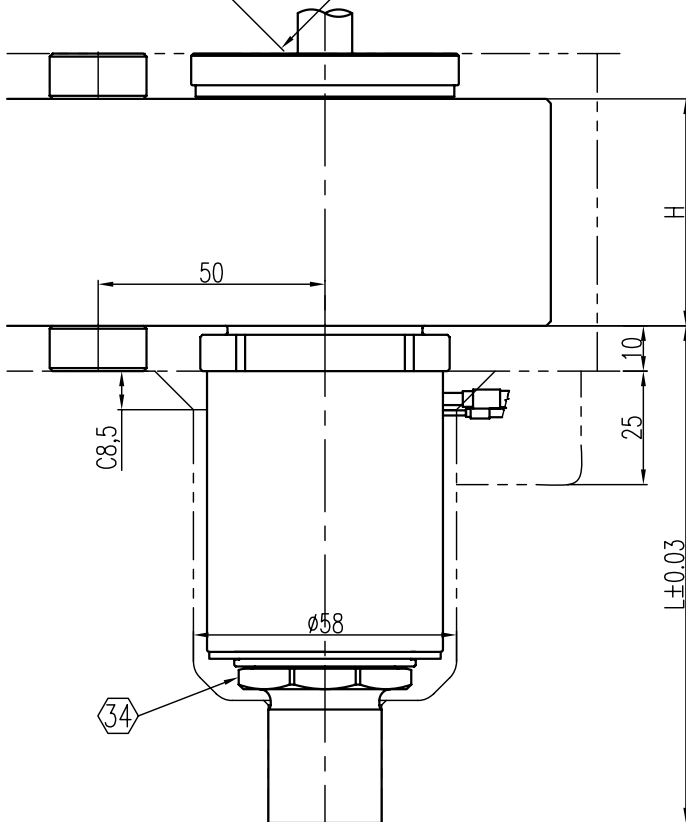
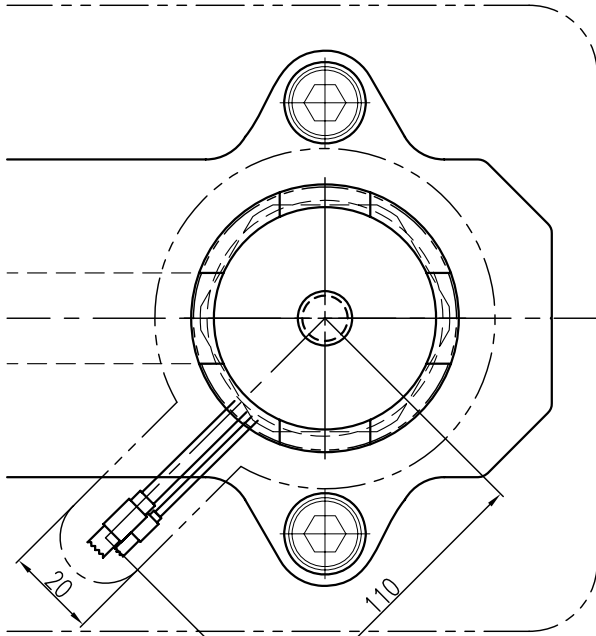


BXS

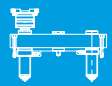
Bi-Met extended C-valve with bushing (CVEB)



- suited for all materials
- use PNC7518 pneumatic cylinder or HYC4016 hydraulic cylinder
- can be used when $A < 20^\circ$
- simplifies mold manufacturing



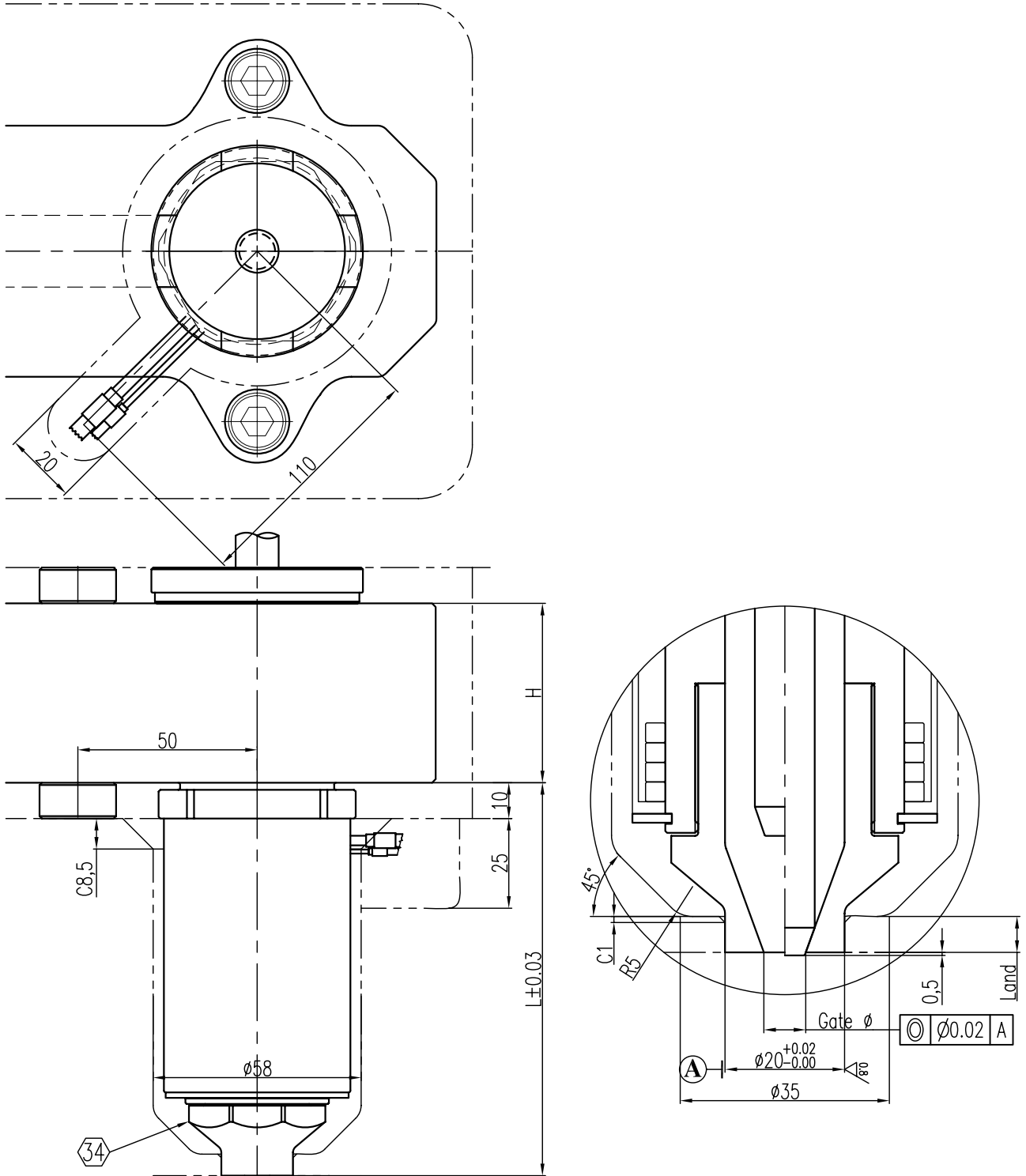
Related to the scope of size (when out of range, special design needed)				
L	H	A	Gate Ø	L _B
60 - 600	65,70	-	5,6,7	13,5
		0° - 20°	5,6,7	27,0



E-type valve (EV)

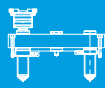
BXS

- suited for crystalline materials
- use PNC7518 pneumatic cylinder or HYC4016 hydraulic cylinder
- simplifies mold manufacturing



Related to the scope of size (when out of range, special design needed)

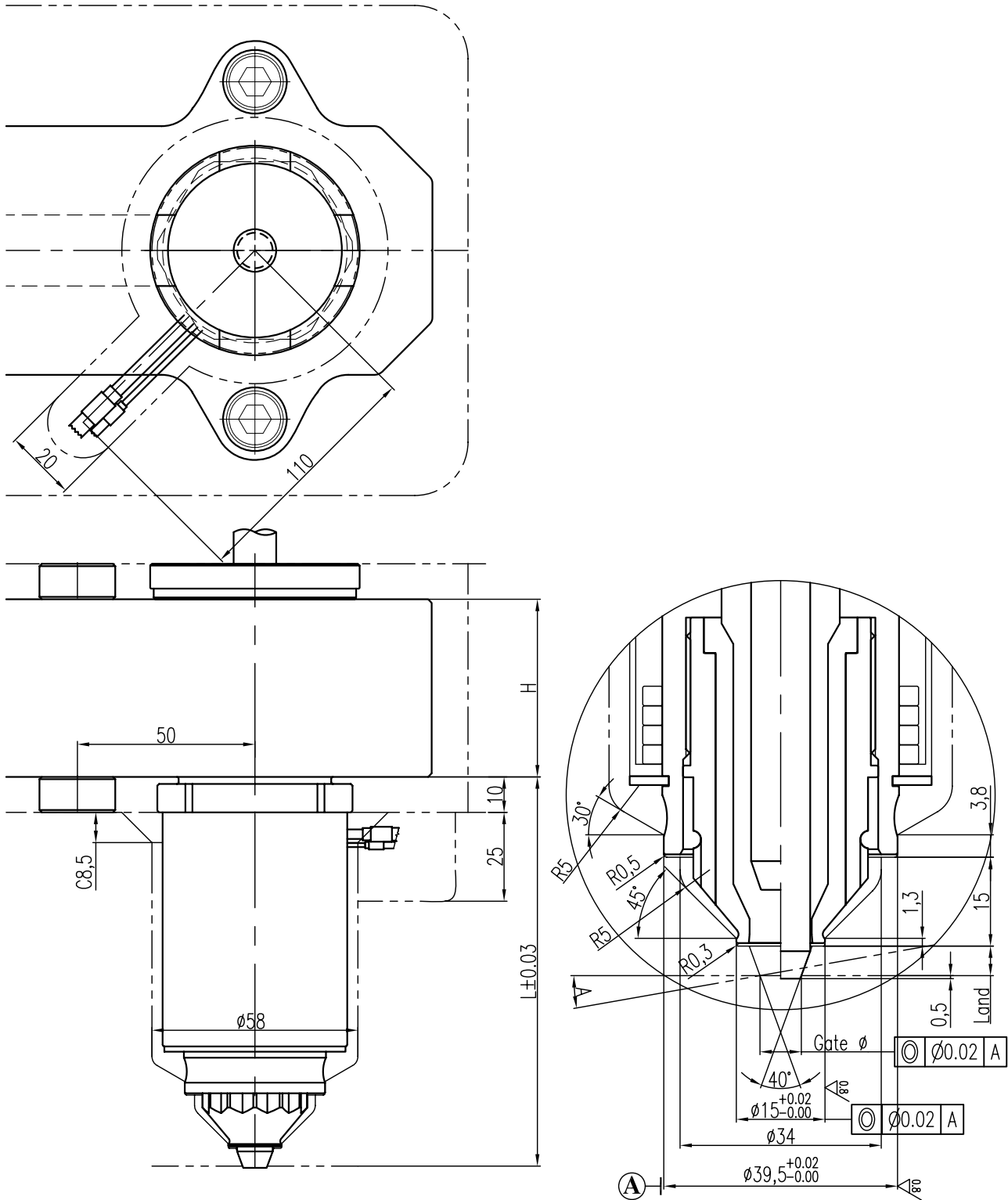
L	H	Gate Ø	Land
60 - 600	65,70	5	6
		6	6
		7	6



BXS

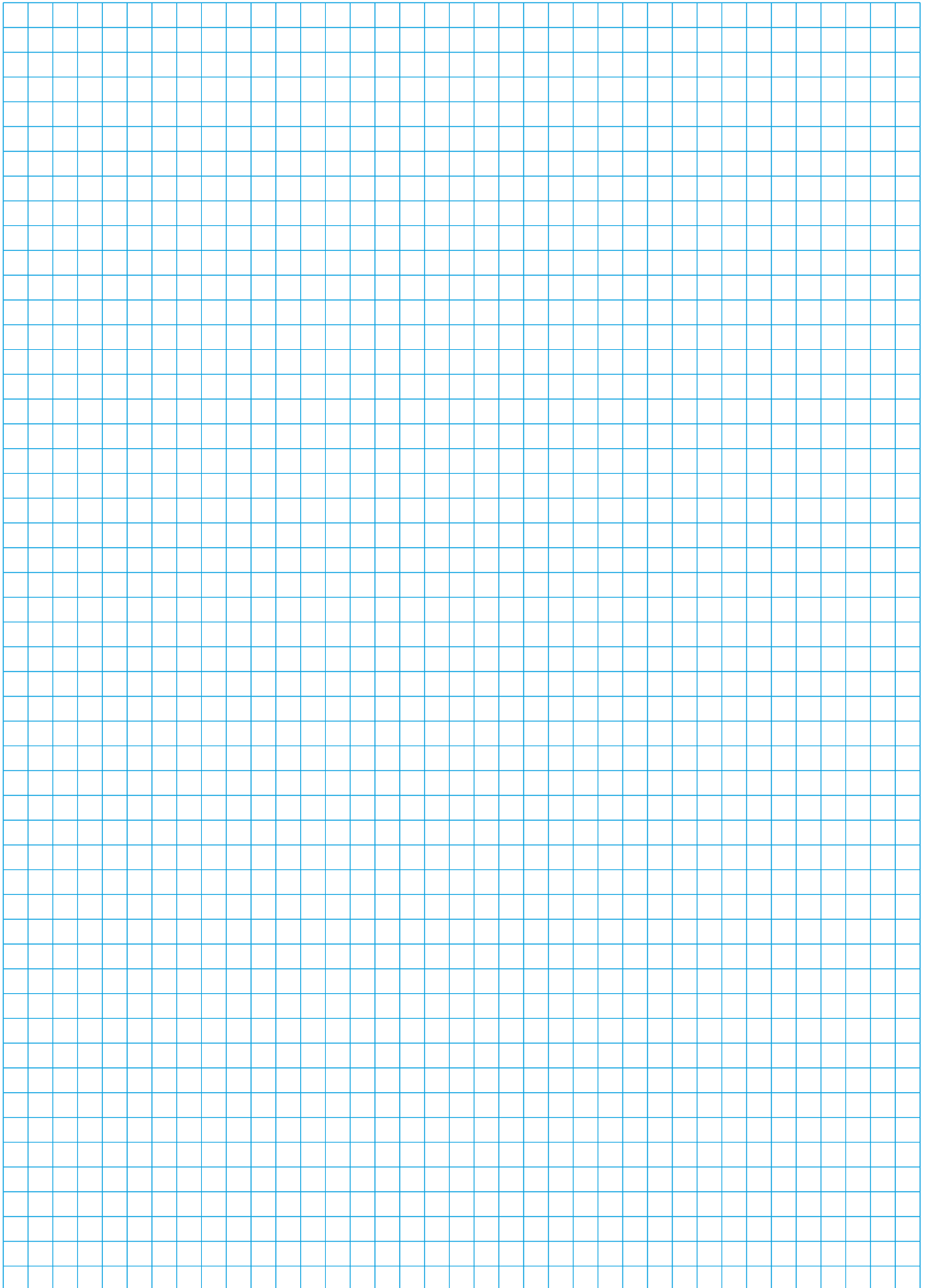
Bi-Met W-valve (WV)

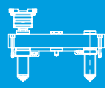
- suited for low processing temperature amorphous and semi-crystalline materials
- use PNC7518 pneumatic cylinder or HYC4016 hydraulic cylinder
- can be used when $A < 10^\circ$
- especially designed for high friction material



Related to the scope of size (when out of range, special design needed)

L	H	A	Gate ϕ	Land
65 - 600	65,70	$0^\circ - 10^\circ$	5	5
			6	5
			7	5

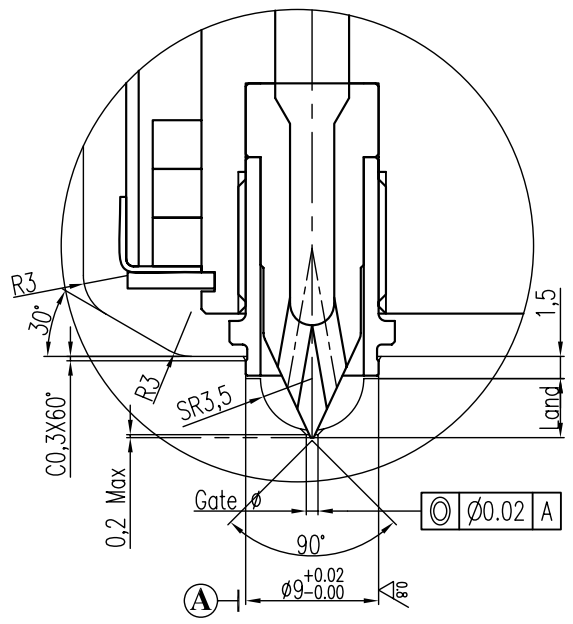
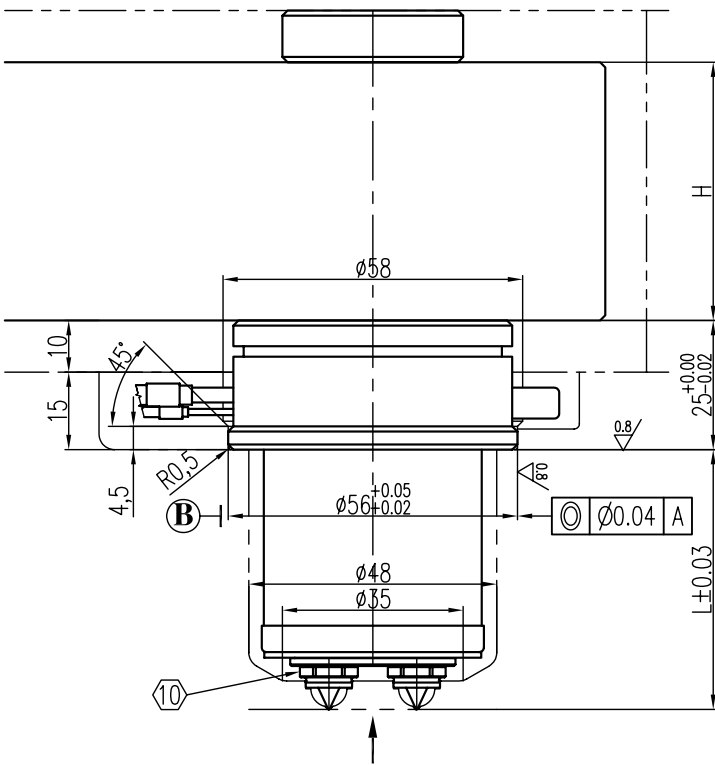
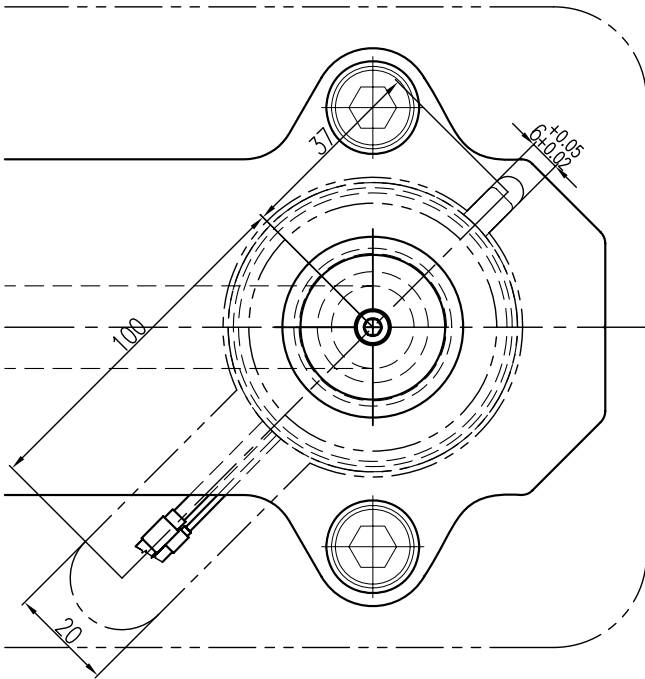




BX

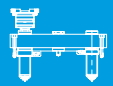
Multi Tip torpedo (MTT)

- suited for amorphous and semi-crystalline materials
- suited for color change



Bottom view: see next page

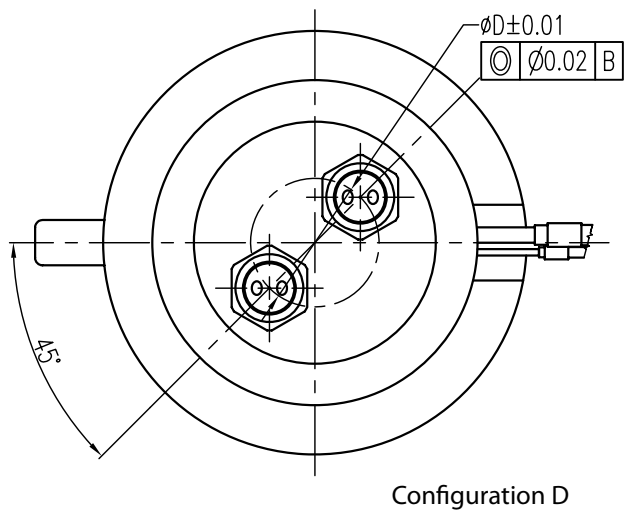
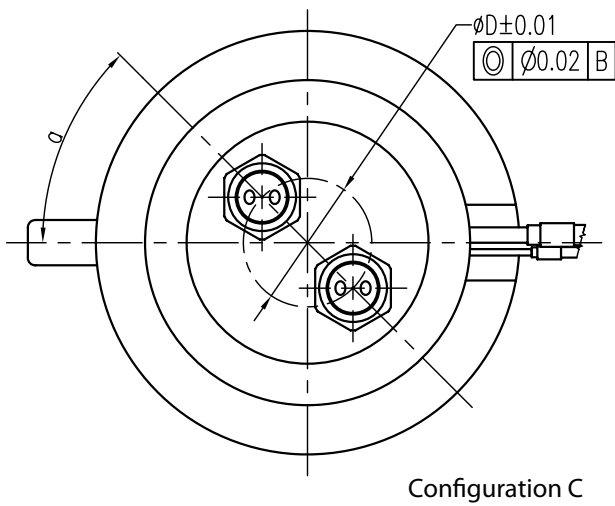
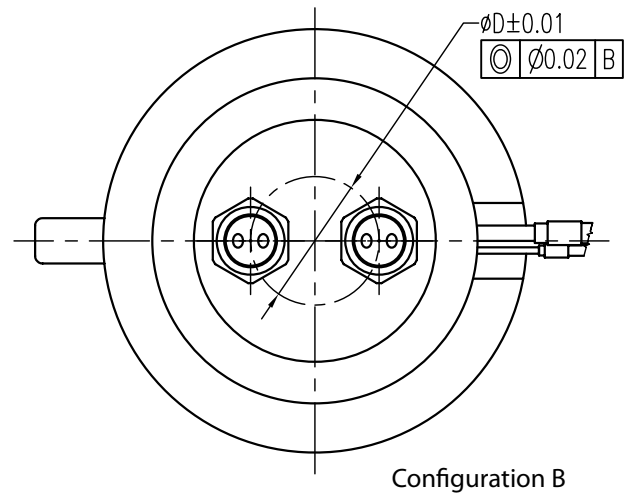
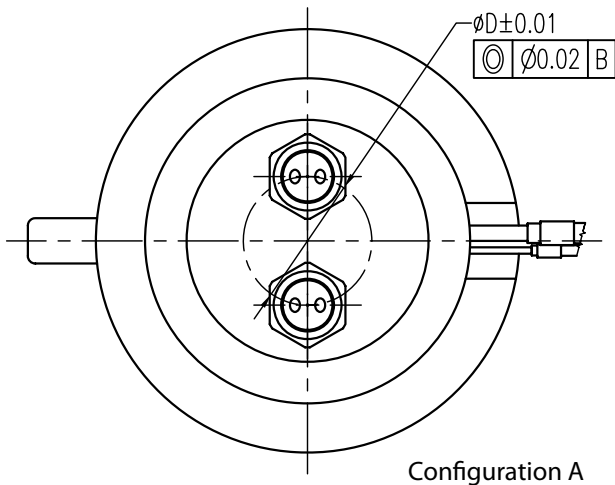
Related to the scope of size (when out of range, special design needed)				
L	H	D	Gate Ø	Land
50 - 120	45, 50, 55	15 - 17,5	0,8 - 1,5	4

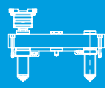


BX

Multi Tip torpedo (MTT) - bottom view

- Nozzle (dis)assembly from the cavity plate at material process temperature
- "B" see previous page

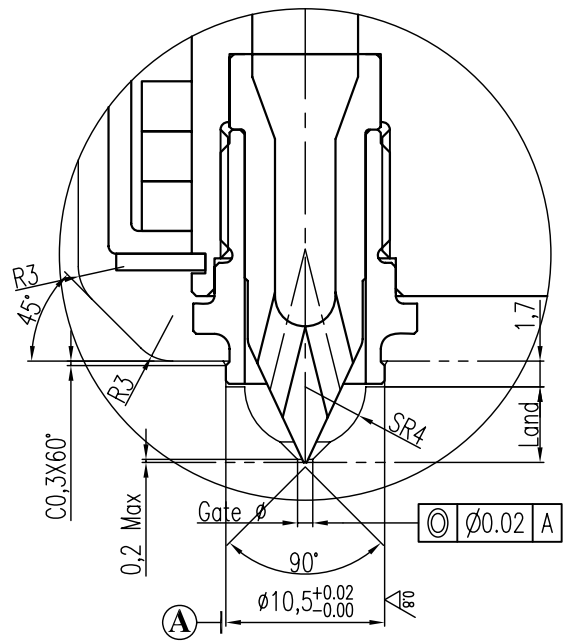
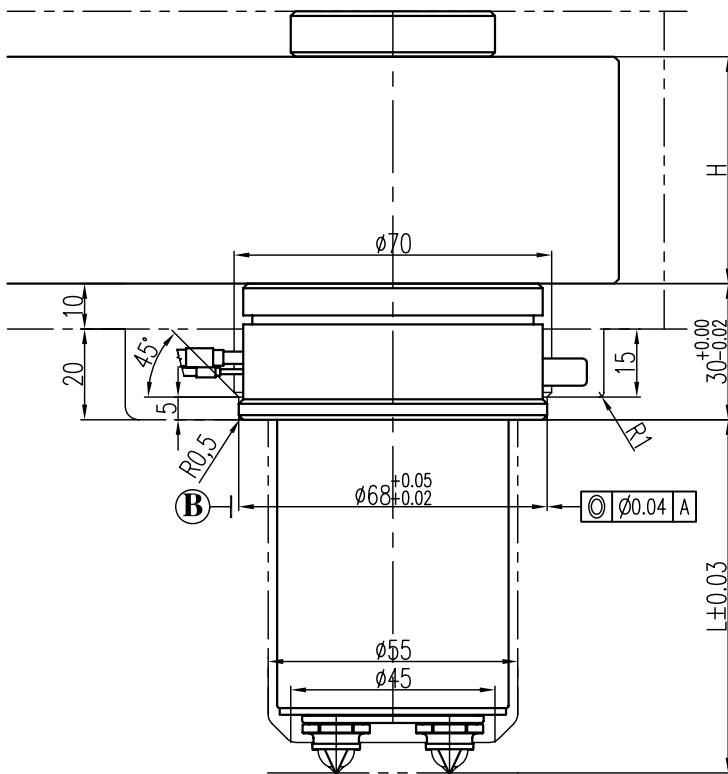
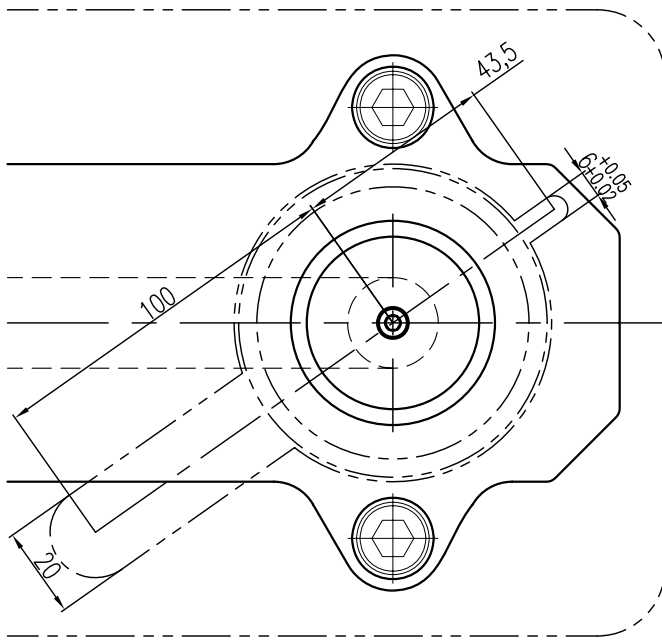




BX

Multi Tip torpedo (MTT)

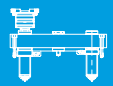
- suited for amorphous and semi-crystalline materials
- suited for color change



Bottom view: see next page

Related to the scope of size (when out of range, special design needed)

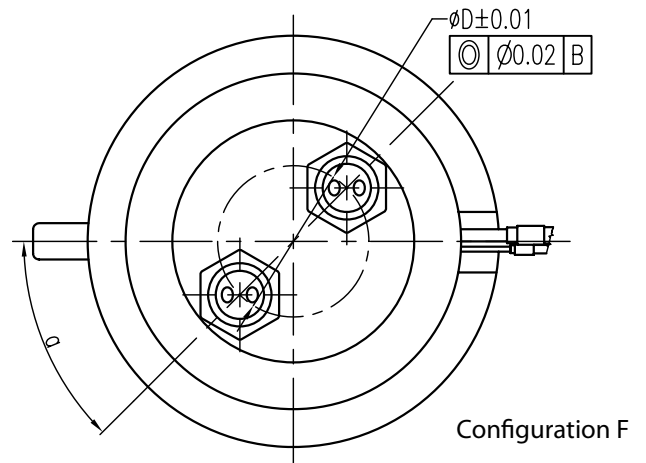
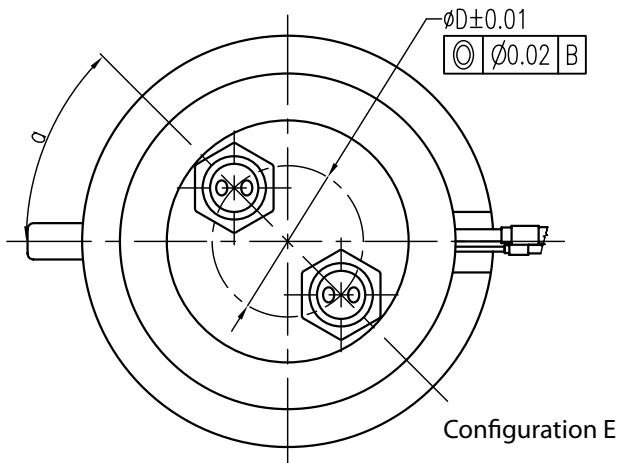
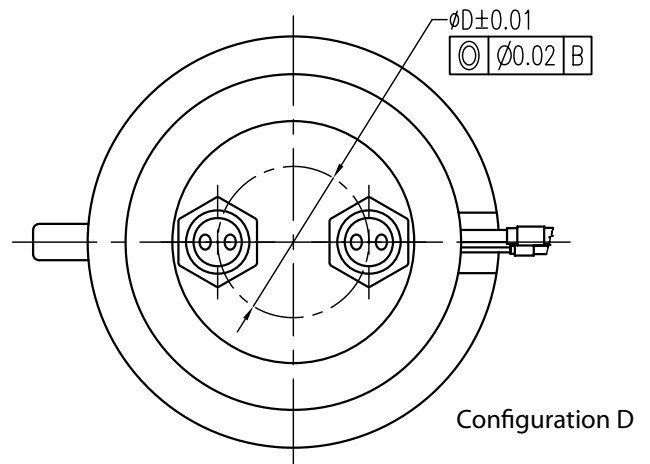
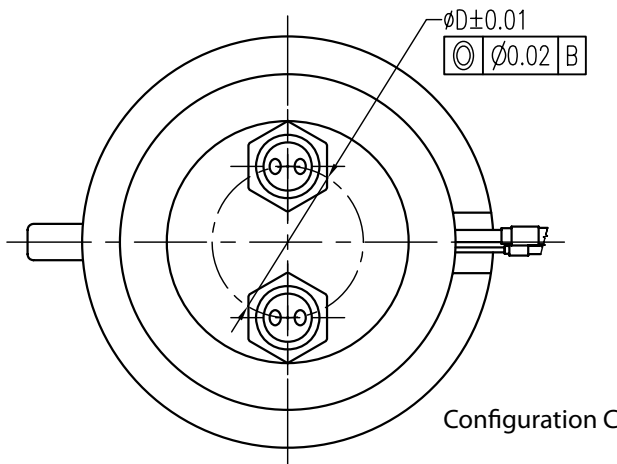
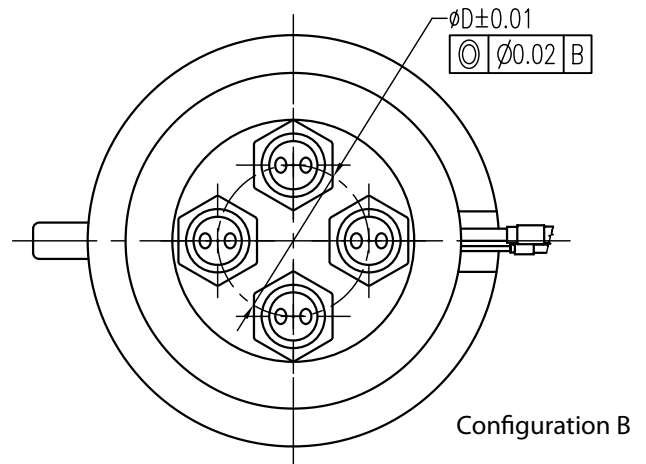
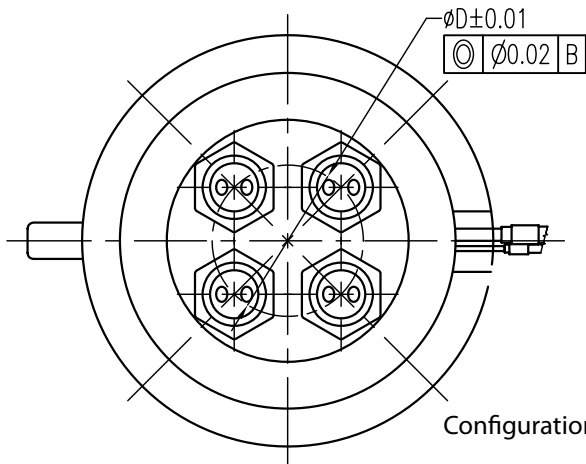
L	H	D	Gate Ø	Land
50 - 150	45, 50, 55	15 - 17,5	0,8 - 1,5	5

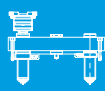


Multi Tip torpedo (MTT) - bottom view

BX

- Nozzle (dis)assembly from the cavity plate at material process temperature
- "B" see previous page

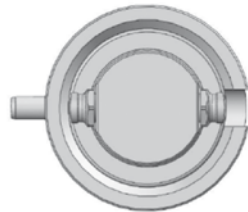
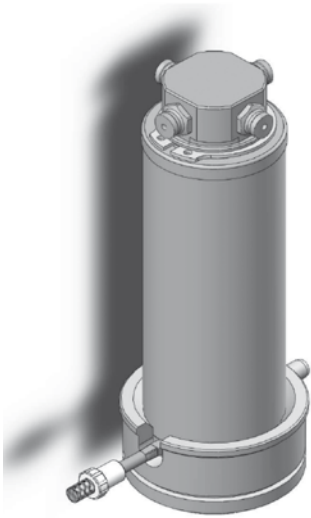




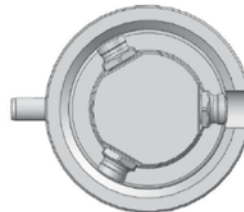
Info

Edge Gating

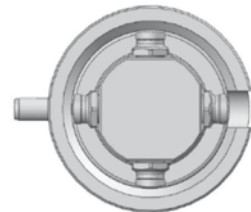
- side gating on vertical part walls
- available from 1 to 4 gate configurations



2 tip



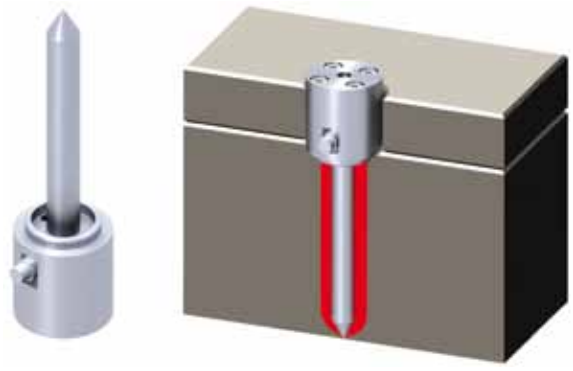
3 tip



4 tip

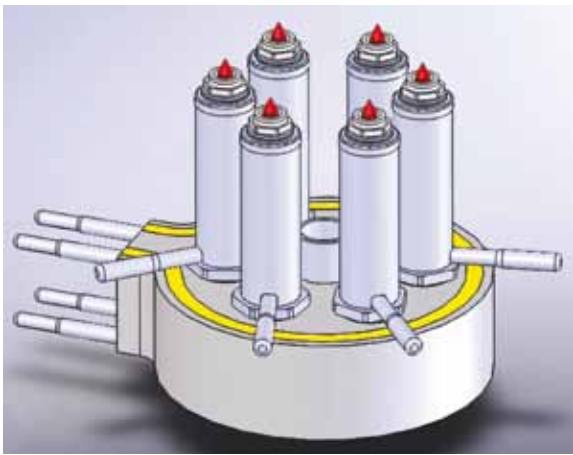
Internally Heated Nozzle

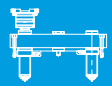
- uses a cartridge heater to heat the torpedo, making heating transfer more effective with less energy



Mini System

- used for small size products which require the nozzles to be located very closely together
- can be used as single nozzle or with a manifold system

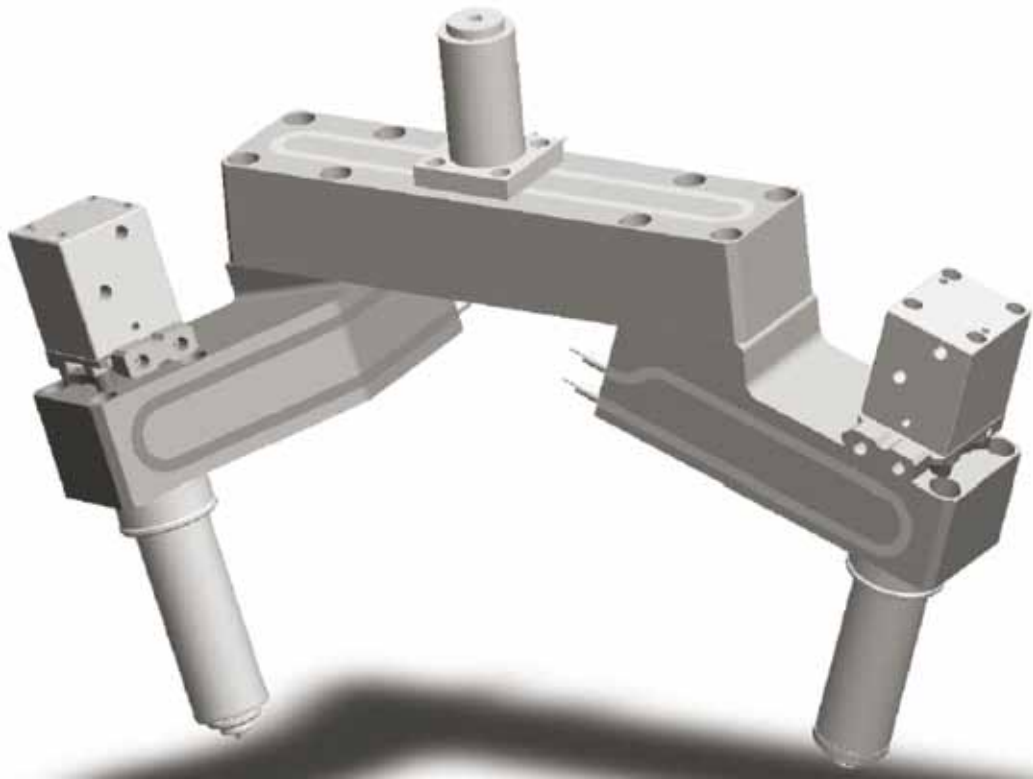




Info

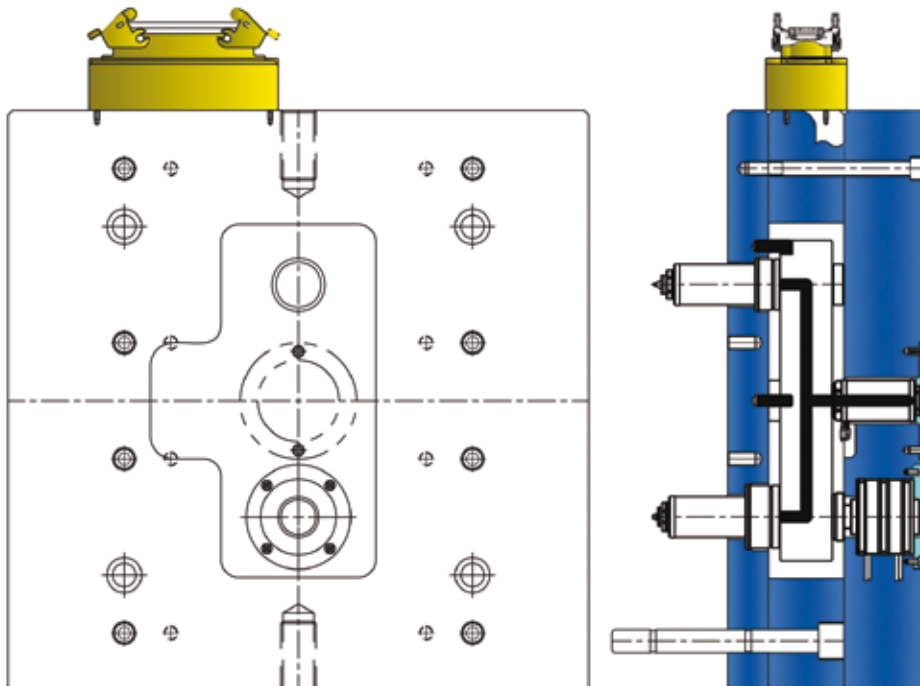
Angled Manifold

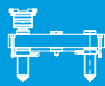
- special angled injection hot runner system



Hot Half

- fully assembled hot runner system
- suited for frequently cavity changing applications
- reduces mold making time and tooling costs
- increases productivity

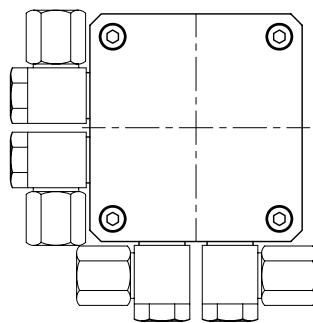
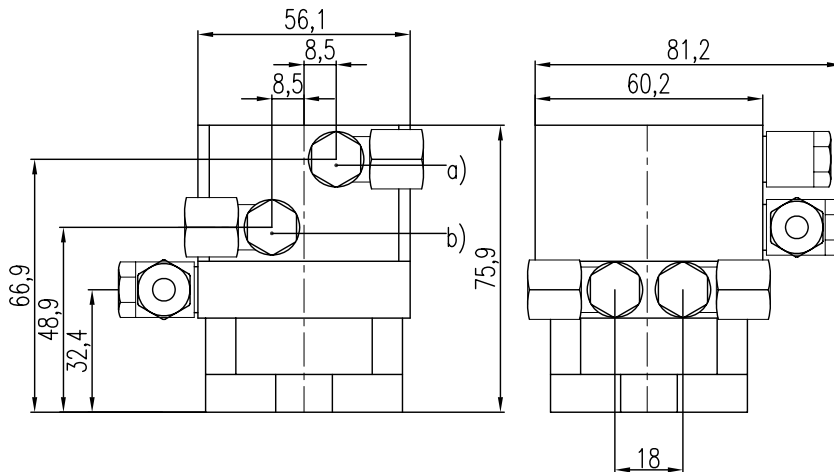
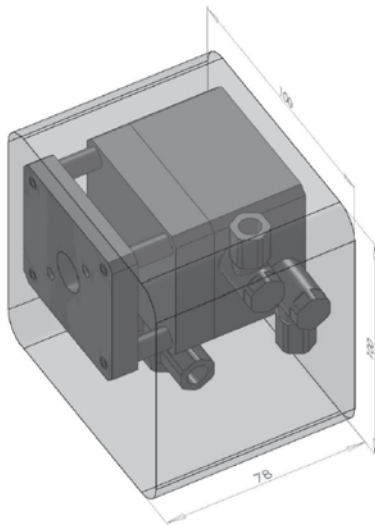




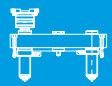
PNC4010-01

Valve actuator

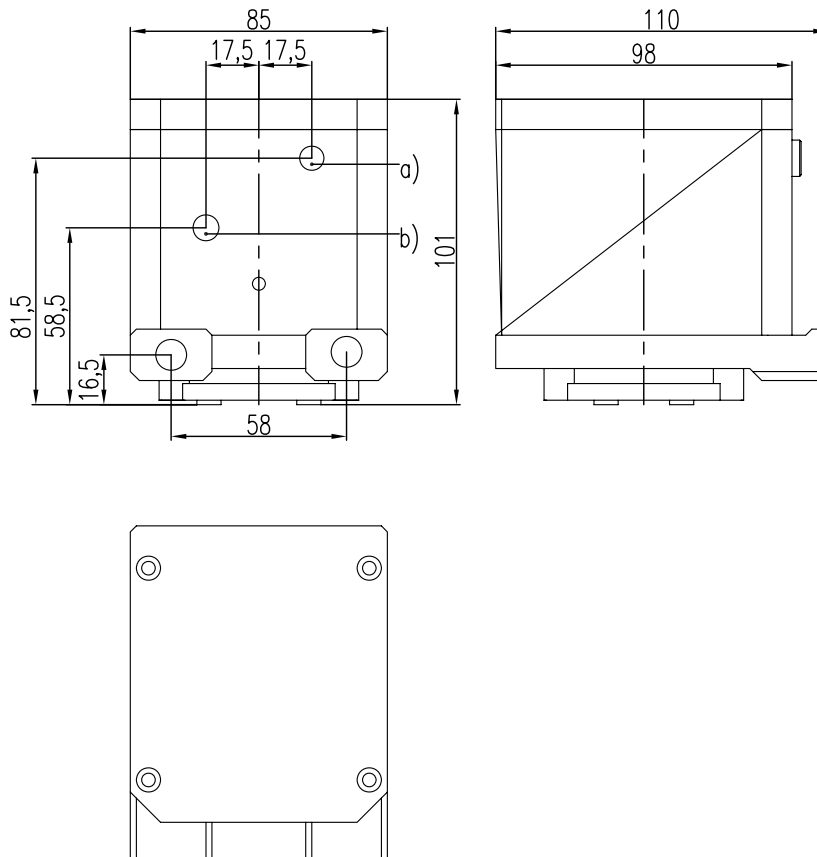
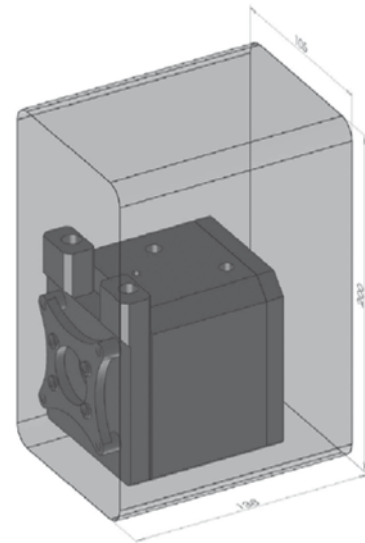
- bolted to the manifold
- cooling plate between actuator and manifold
- we recommend cooling the actuator after the end of production for min. 15 minutes to avoid overheating due to heat transfer from the manifold



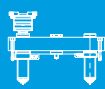
Valve pin		Valve pin operation		Cooling	
Valve pin Ø	3,8 mm	Operation	pneumatic	Medium	cooling water
Connections	quick coupling	Operation pressure	6 - 10 Bar	Flow rate	6 L/min
		Flow rate	2 L/min	Temperature	30° - 60° C
		Reaction time	0,5 sec	Connections	G1/8
		Valve pin stroke	10 mm		max. 3 actuators in 1 line
		Closing Force	754 N (6 Bar)		
		Opening force	635 N (6 Bar)		
		Connections	G1/8		
			a) closing		
			b) opening		


Valve actuator
PNC7518-01

- bolted to the manifold
- cooling plate between actuator and manifold
- we recommend cooling the actuator after the end of production for min. 15 minutes to avoid overheating due to heat transfer from the manifold

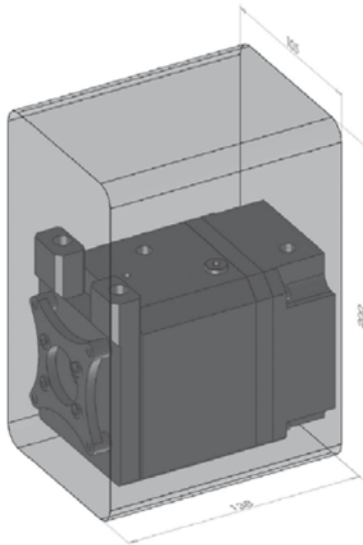


Valve pin		Valve pin operation		Cooling	
Valve pin Ø	6/8 mm	Operation	pneumatic	Medium	cooling water
Connections	quick coupling	Operation pressure	6 - 10 Bar	Flow rate	6 L/min
Adjustment	± 1,5 mm via adjustment threads from outside	Flow rate	12 L/min	Temperature	30° - 60° C
		Reaction time	0,5 sec	Connections	G1/8
		Valve pin stroke	18 mm		max. 3 actuators in 1 line
		Closing Force	2651 N (6 Bar)		
		Opening force	2401 N (6 Bar)		
Connections			G1/8		
			a) closing		
			b) opening		

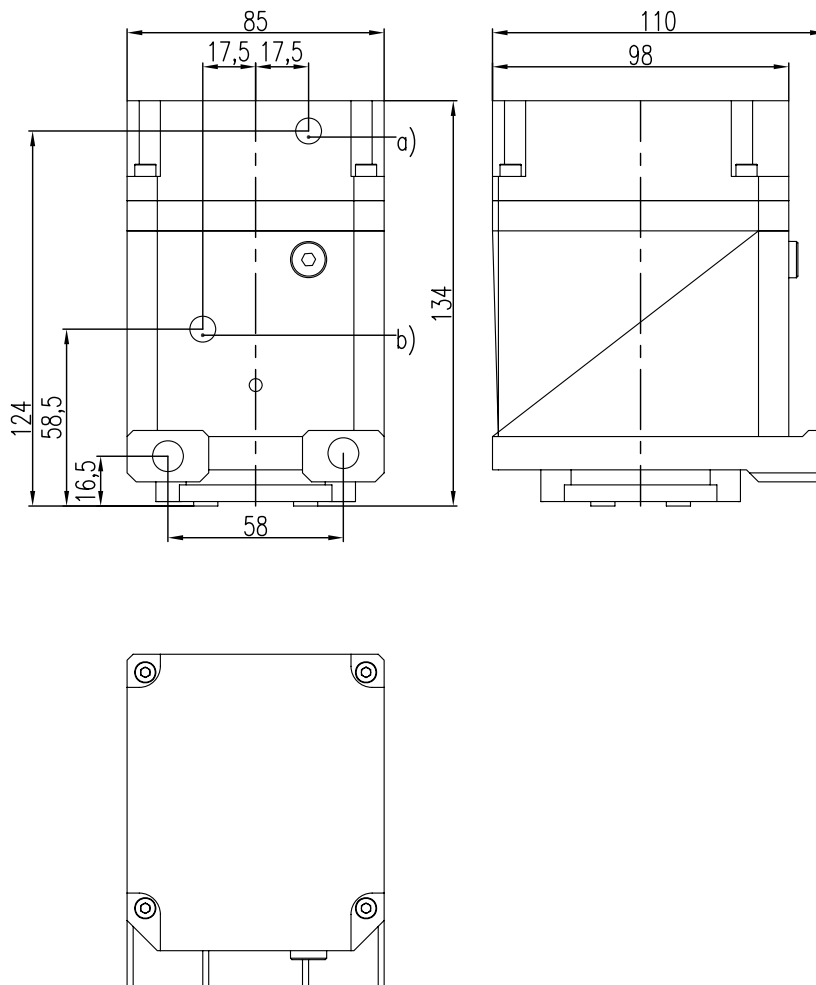


PNC7518-02

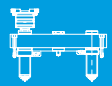
Valve actuator



- bolted to the manifold
- cooling plate between actuator and manifold
- we recommend cooling the actuator after the end of production for min. 15 minutes to avoid overheating due to heat transfer from the manifold

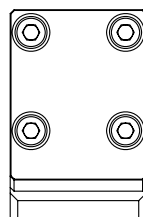
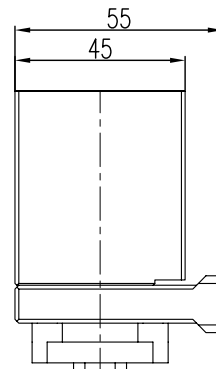
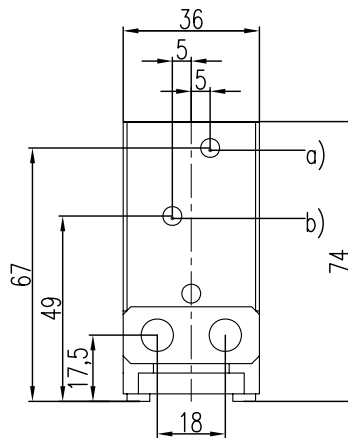
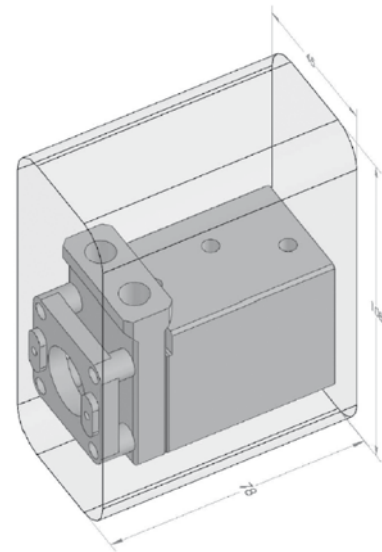


Valve pin		Valve pin operation		Cooling	
Valve pin Ø	6/8 mm	Operation	pneumatic	Medium	cooling water
Connections	quick coupling	Operation pressure	6 - 10 Bar	Flow rate	6 L/min
Adjustment	± 1,5 mm via adjustment threads from outside	Flow rate	20 L/min	Temperature	30° - 60° C
		Reaction time	0,5 sec	Connections	G1/8
		Valve pin stroke	18 mm		max. 3 actuators in 1 line
		Closing Force	2651 N (6 Bar)		
		Opening force	2401 N (6 Bar)		
		Connections	G1/8		
		a) closing			
		b) opening			

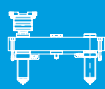

Valve actuator

HYC2508-01

- bolted to the manifold
- cooling plate between actuator and manifold
- we recommend cooling the actuator after the end of production for min. 15 minutes to avoid overheating due to heat transfer from the manifold

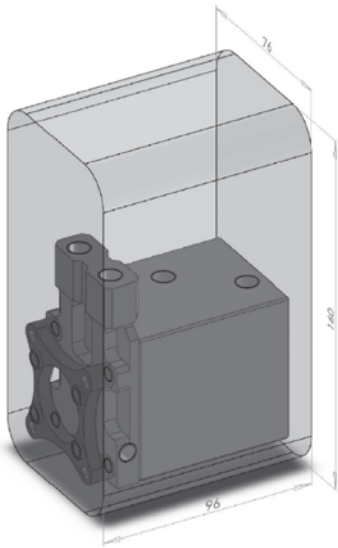


Valve pin		Valve pin operation		Cooling	
Valve pin Ø	3,8 mm	Operation	hydraulic	Medium	cooling water
Connections	quick coupling	Operation pressure	40 - 60 Bar	Flow rate	6 L/min
Adjustment	± 1,5 mm via adjustment threads from outside	Flow rate	1,5 L/min	Temperature	30° - 60° C
		Reaction time	0,2 sec	Connections	G1/8
		Valve pin stroke	8 mm		max. 3 actuators in 1 line
		Closing Force	1964 N (40 Bar)		
		Opening force	1512 N (40 Bar)		
Connections			G1/8		
			a) closing		
			b) opening		

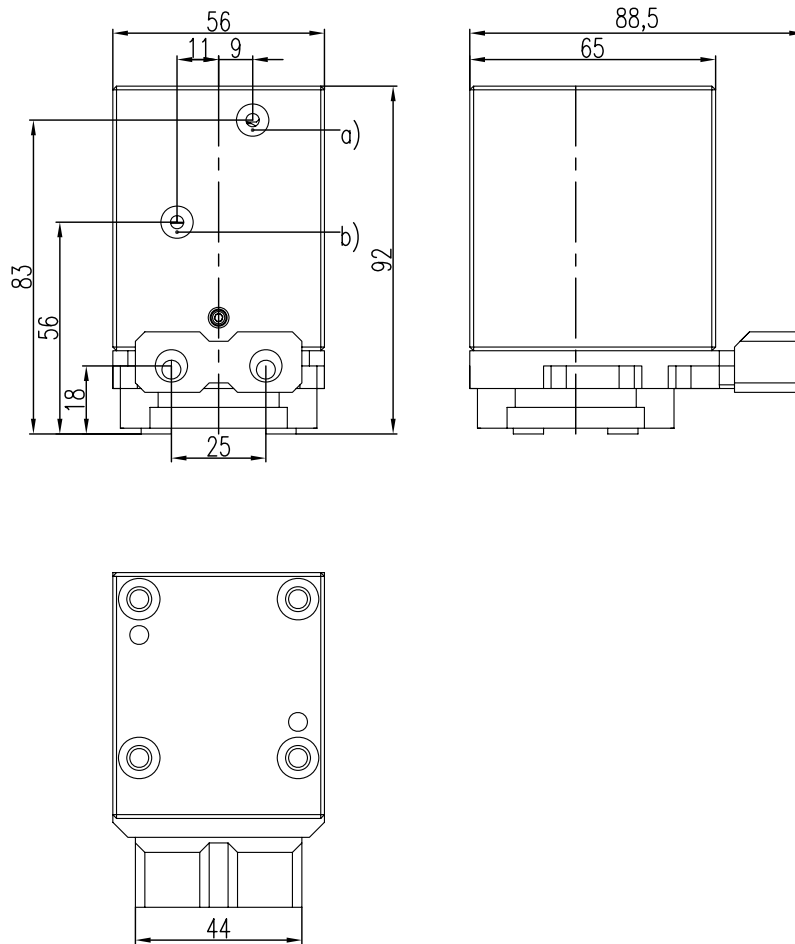


HYC4016-01

Valve actuator



- bolted to the manifold
- cooling plate between actuator and manifold
- we recommend cooling the actuator after the end of production for min. 15 minutes to avoid overheating due to heat transfer from the manifold

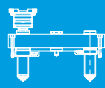


Valve pin		Valve pin operation		Cooling	
Valve pin Ø	6/8 mm	Operation	hydraulic	Medium	cooling water
Connections	quick coupling	Operation pressure	40 - 60 Bar	Flow rate	6 L/min
Adjustment	± 1,5 mm via adjustment threads from outside	Flow rate	3 L/min	Temperature	30° - 60° C
		Reaction time	0,5 sec	Connections	G1/8
		Valve pin stroke	16 mm		max. 3 actuators in 1 line
		Closing Force	5027 N (40 Bar)		
		Opening force	3365 N (40 Bar)		
		Connections	G1/8		
	a) closing				
	b) opening				



Single Nozzles

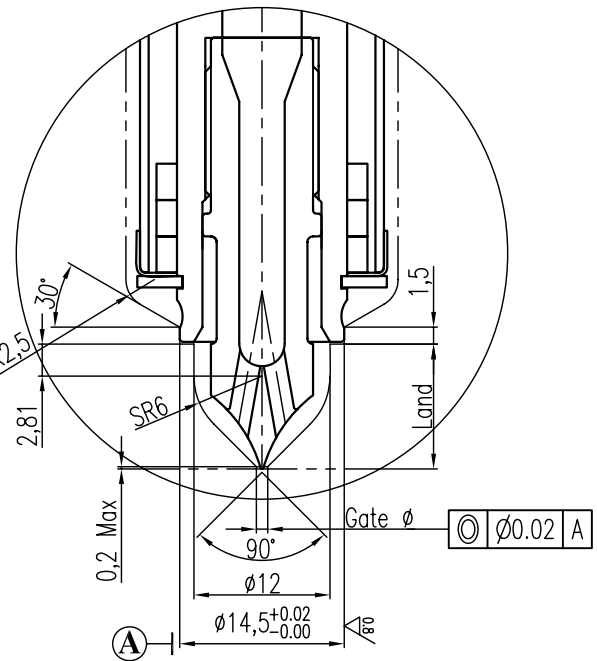
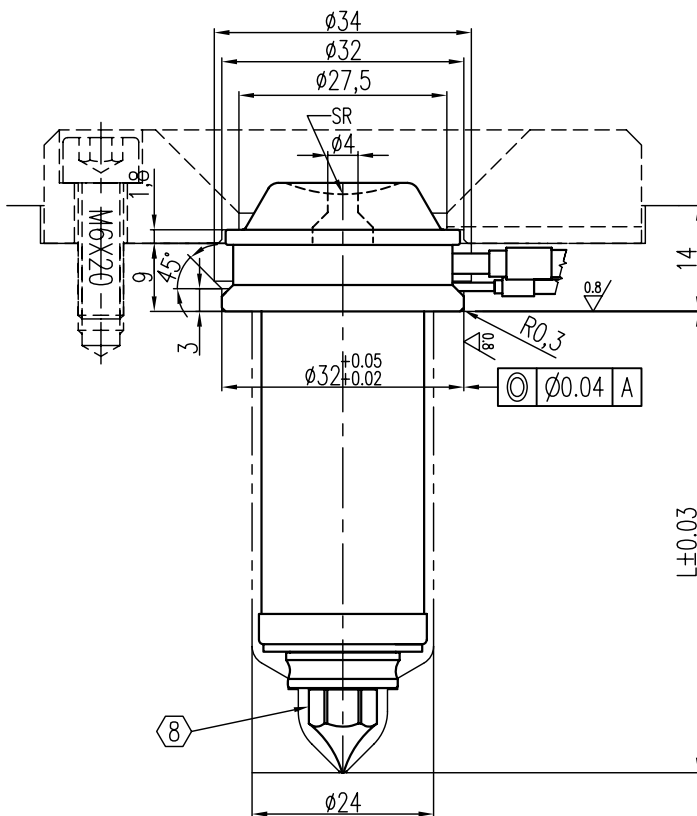
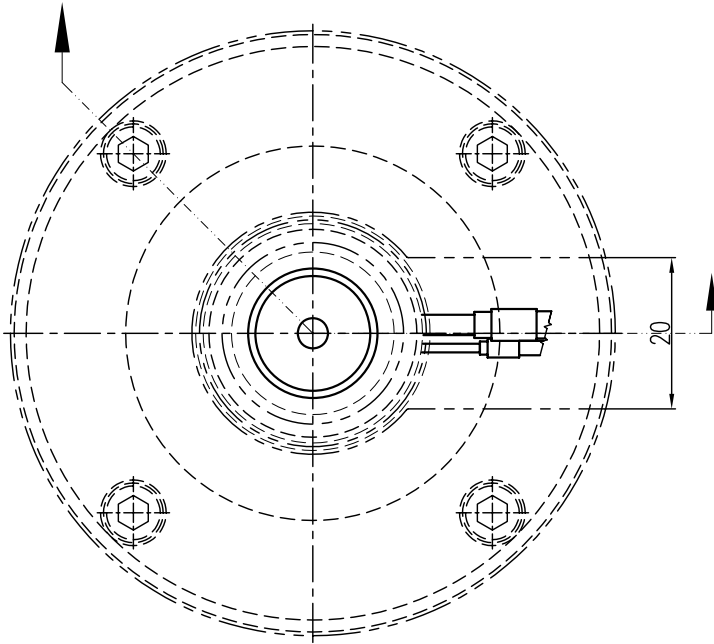




SX

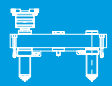
E-Type torpedo (ET)

- suited for amorphous and semi-crystalline materials
- not suited for color change



Related to the scope of size (when out of range, special design needed)

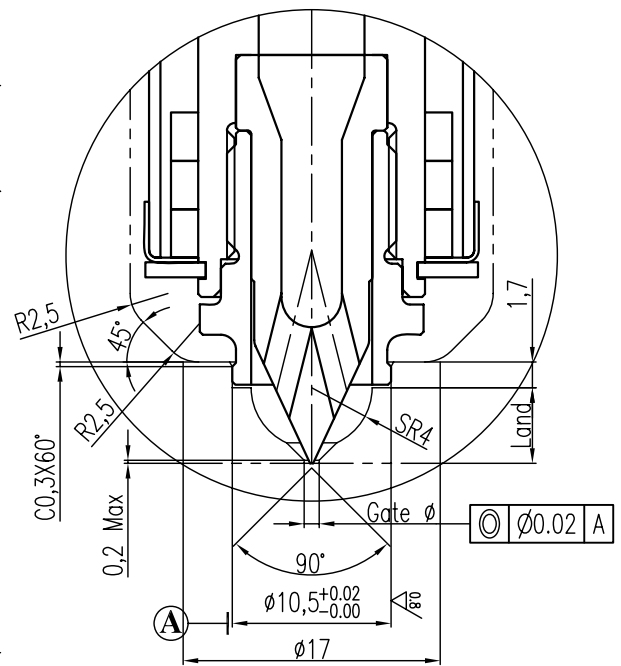
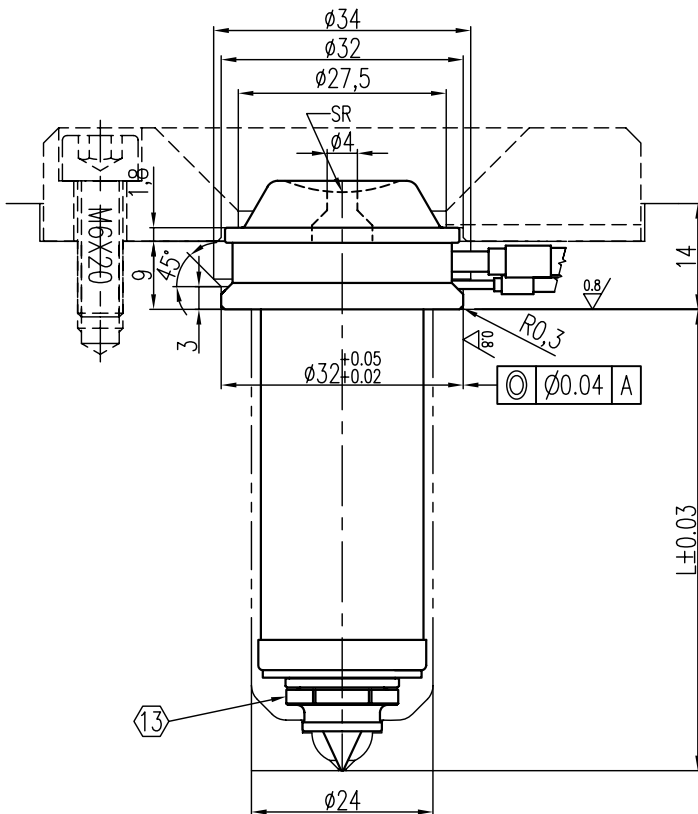
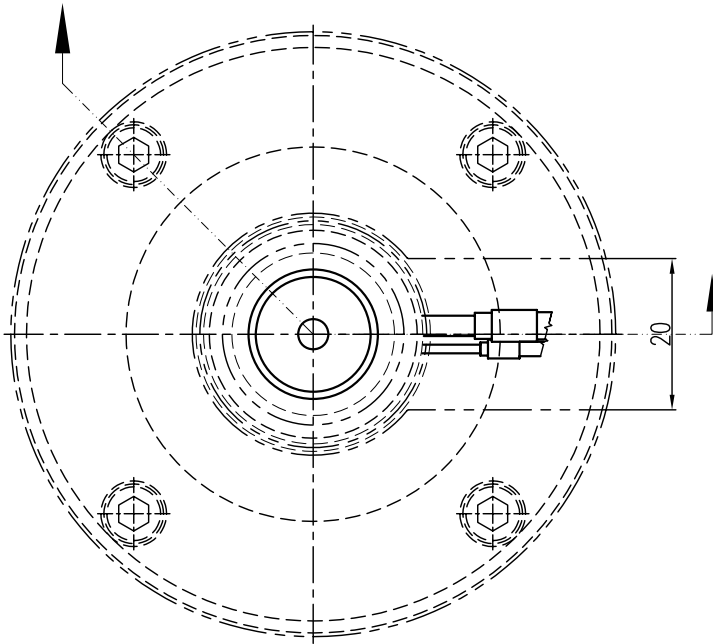
L	SR	Gate ϕ	Land
40 - 135	13, 16, 20	0,8 - 1,5	11



S-Type torpedo (ST)

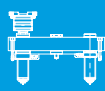
SX

- suited for amorphous and semi-crystalline materials
- not suited for color change



Related to the scope of size (when out of range, special design needed)

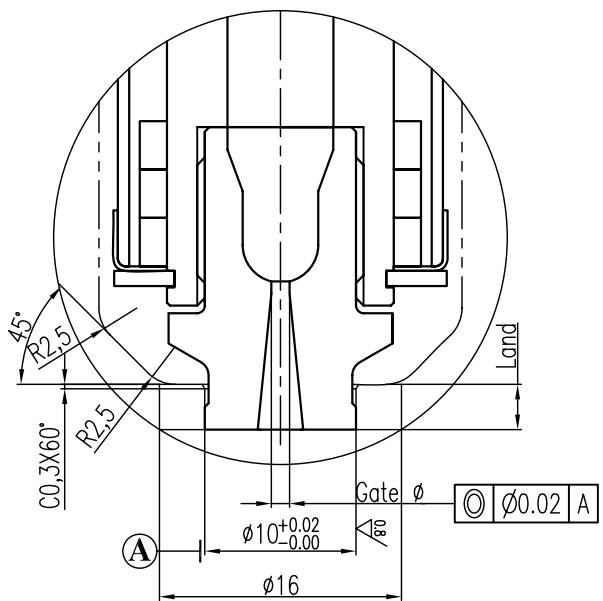
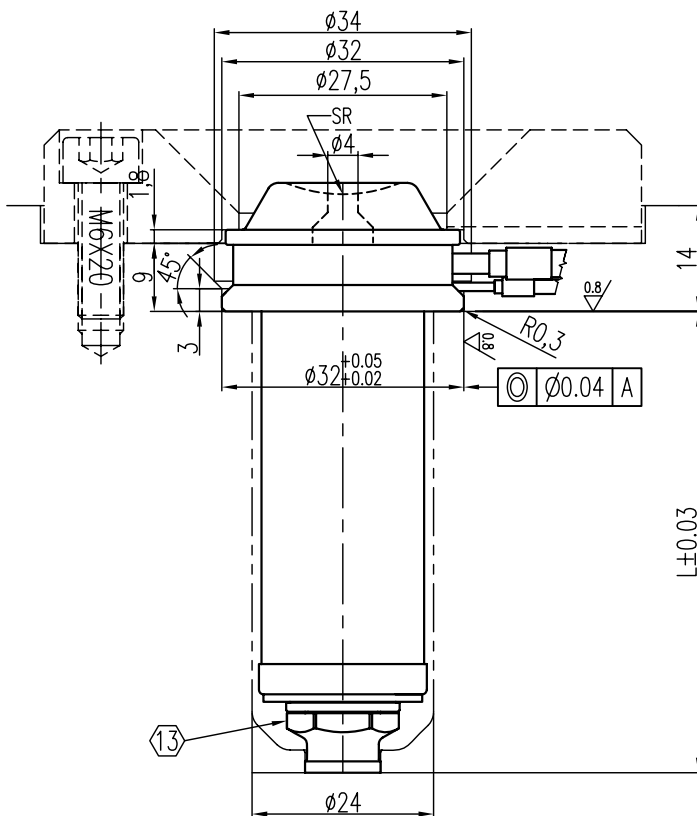
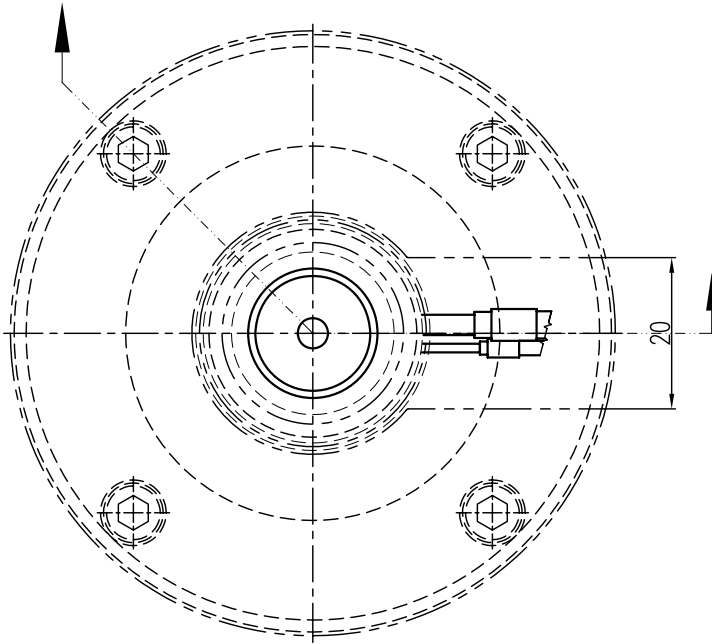
L	SR	Gate \varnothing	Land
40 - 135	13, 16, 20	0,8 - 1,5	5



SX

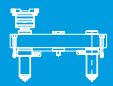
Hot Sprue (HS)

- suited for all materials
- gating into the sub runners
- nozzle profile adjustments by the moldmaker required



Related to the scope of size (when out of range, special design needed)

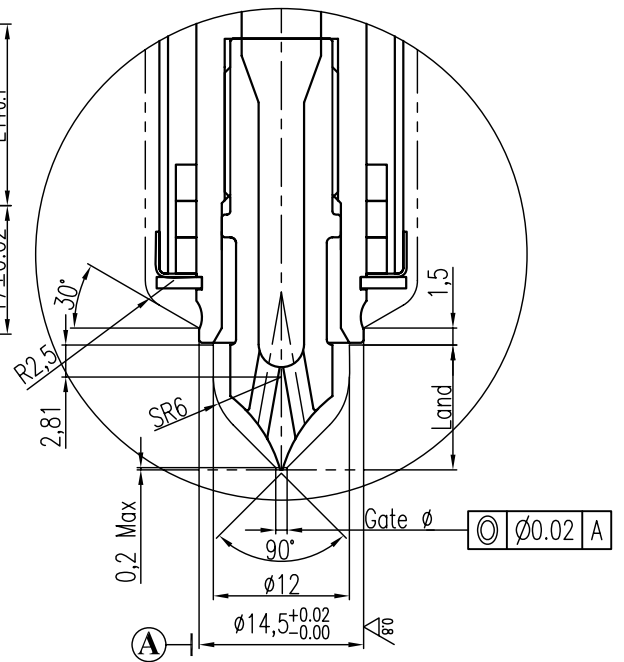
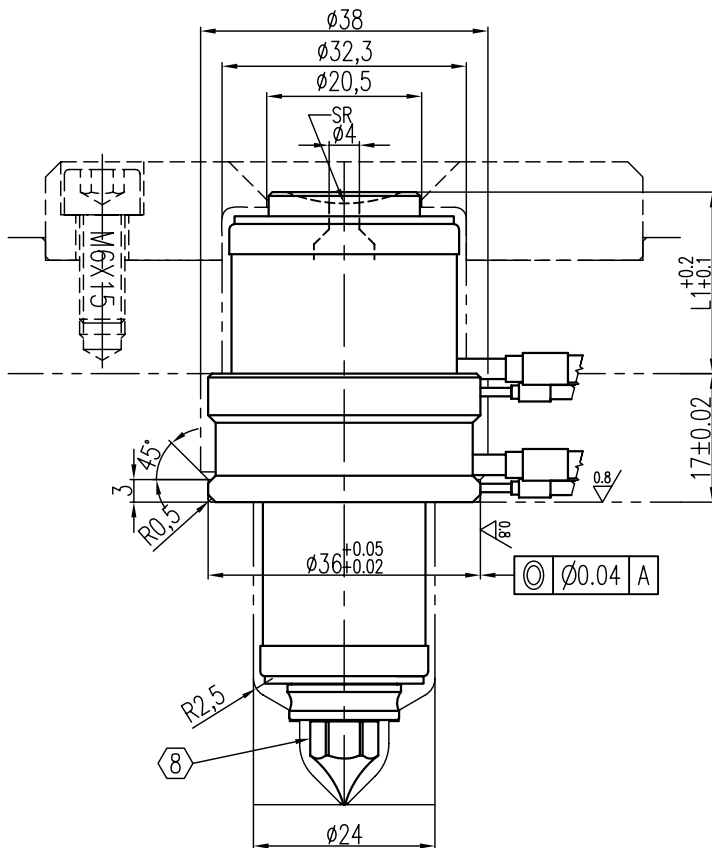
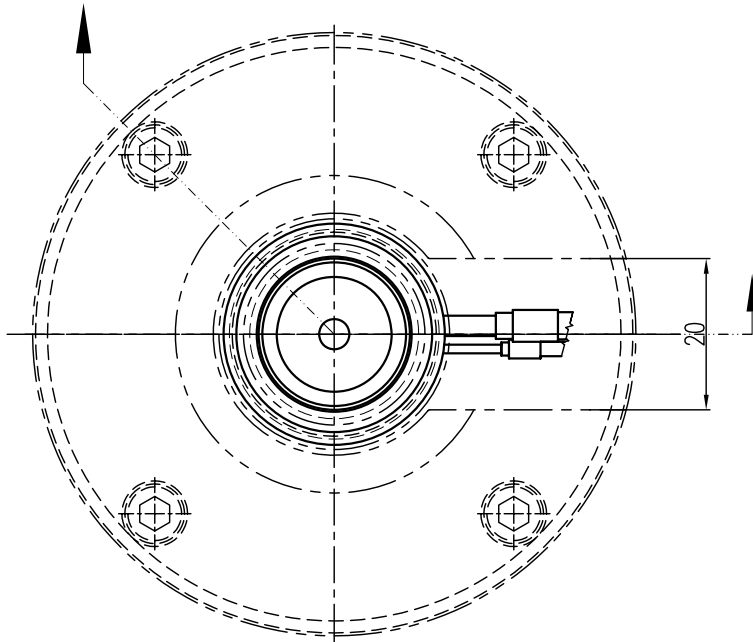
L	SR	Gate Ø	Land
40 - 135	13, 16, 20	1,0 - 2,5	3



EX

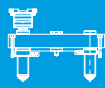
E-type torpedo (ET)

- designed for high processing temperature materials
- suited for amorphous and semi-crystalline materials
- not suited for color change



Related to the scope of size (when out of range, special design needed)

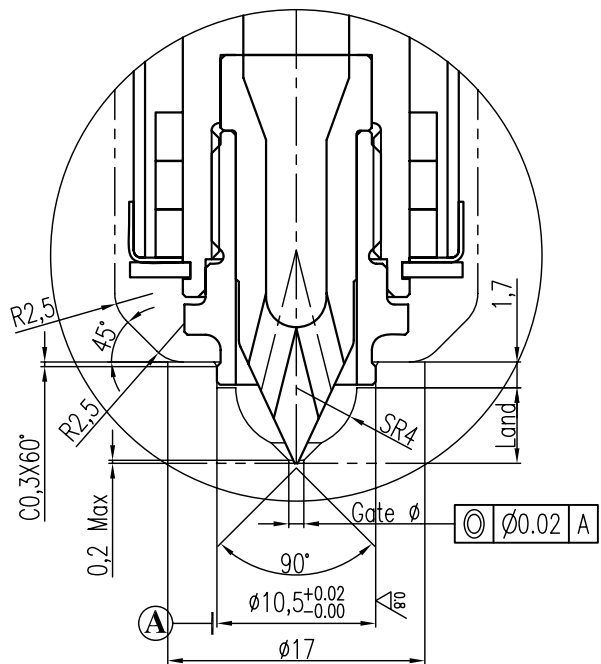
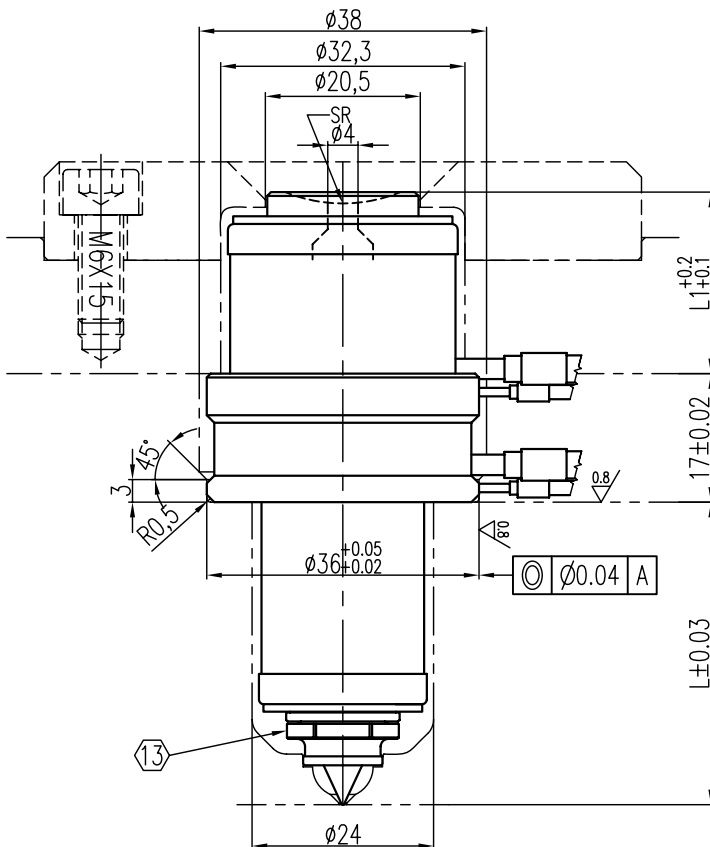
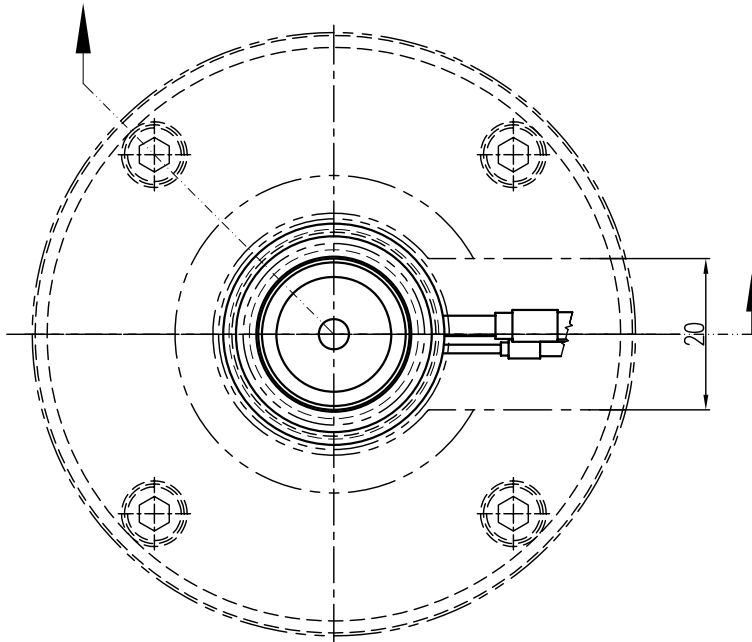
L	L1	Gate ϕ	Land	SR
40 - 135	16 - 60	0,8 - 1,5	11	13, 16, 20



EX

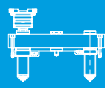
S-type torpedo (ST)

- designed for high processing temperature materials
- suited for amorphous and semi-crystalline materials
- not suited for color change



Related to the scope of size (when out of range, special design needed)

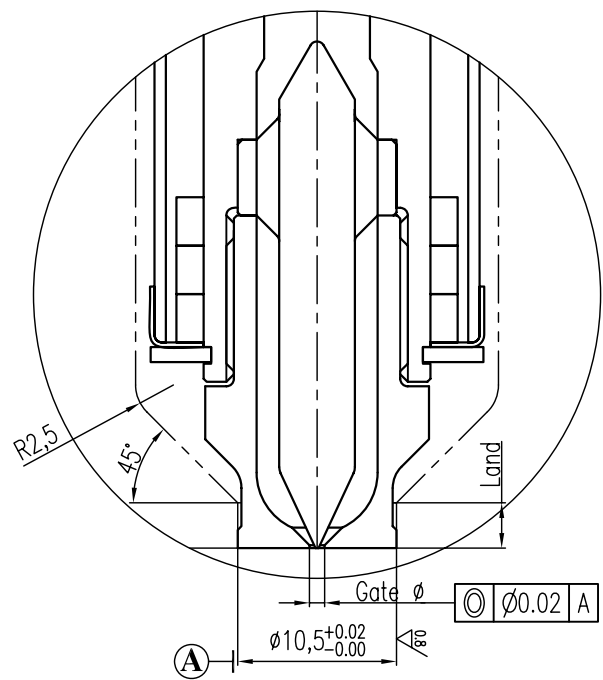
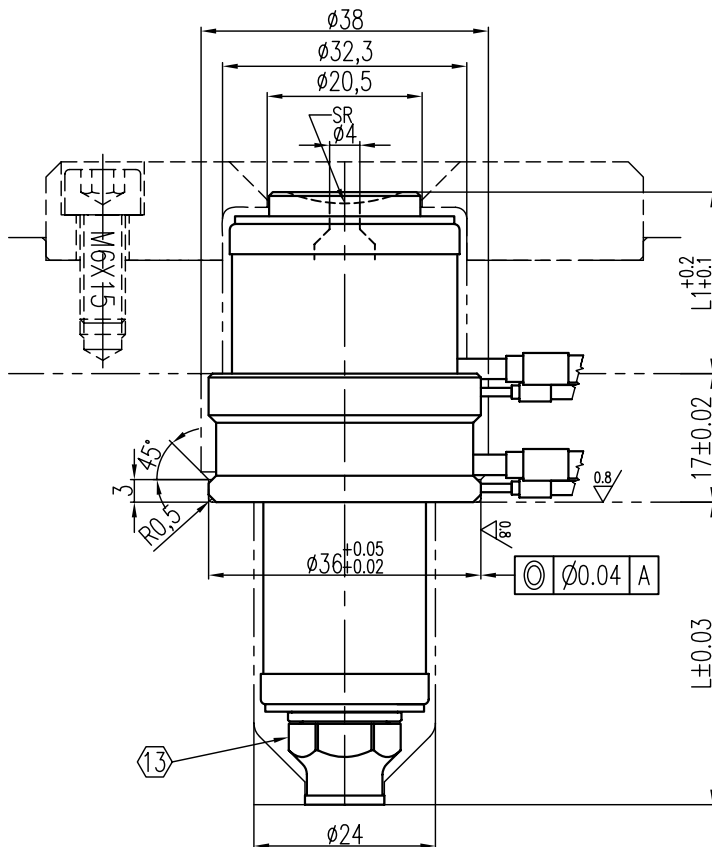
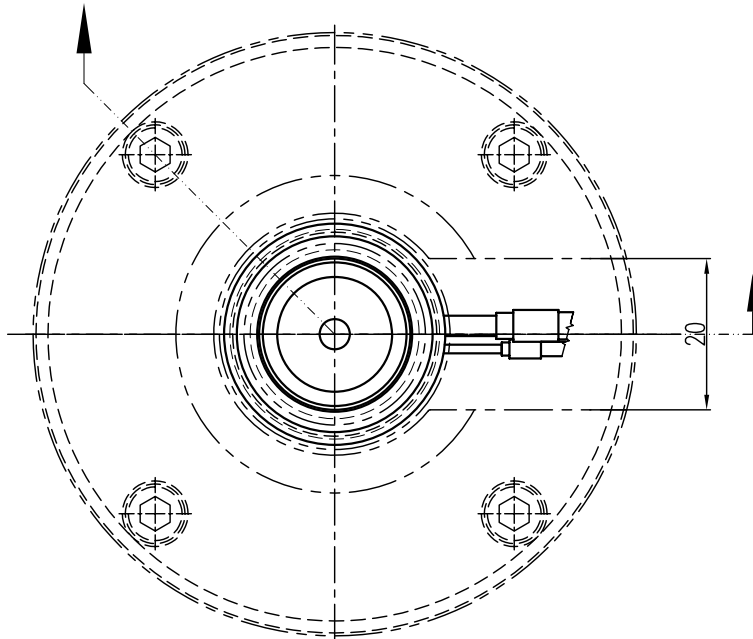
L	L1	Gate ϕ	Land	SR
40 - 135	16 - 60	0,8 - 1,5	5	13, 16, 20



EX

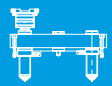
C-type torpedo with bushing (CTB)

- designed for high processing temperature or fast crystallization materials
- suited for crystalline materials
- simplifies mold manufacturing
- suited for color change



Related to the scope of size (when out of range, special design needed)

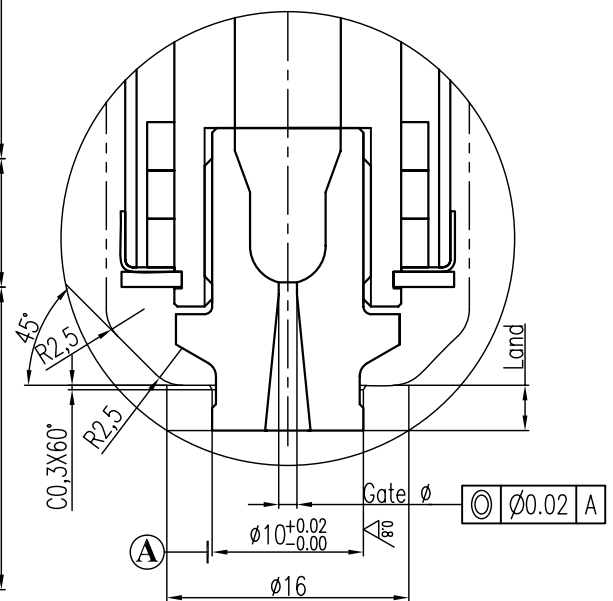
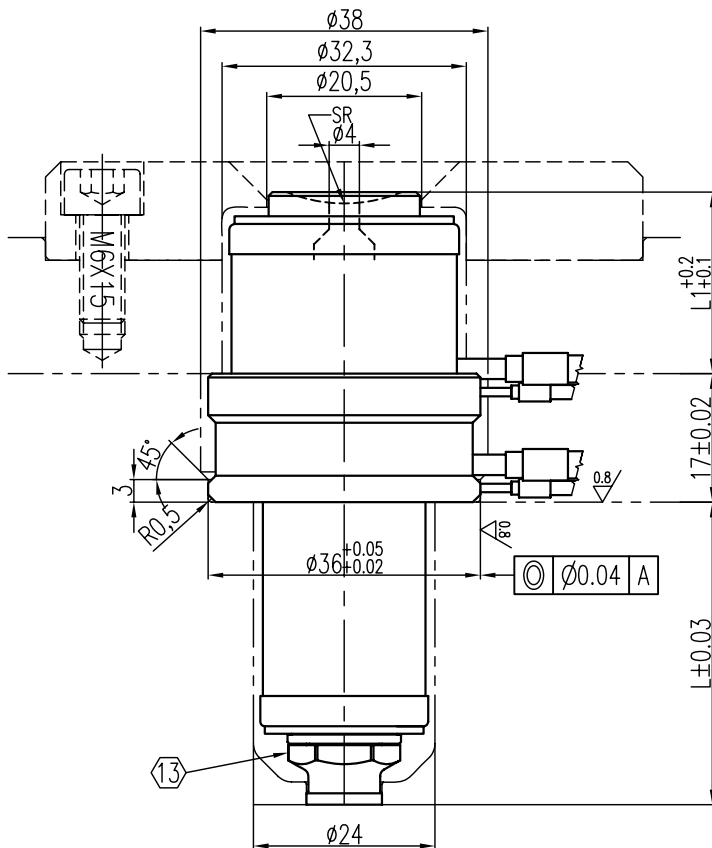
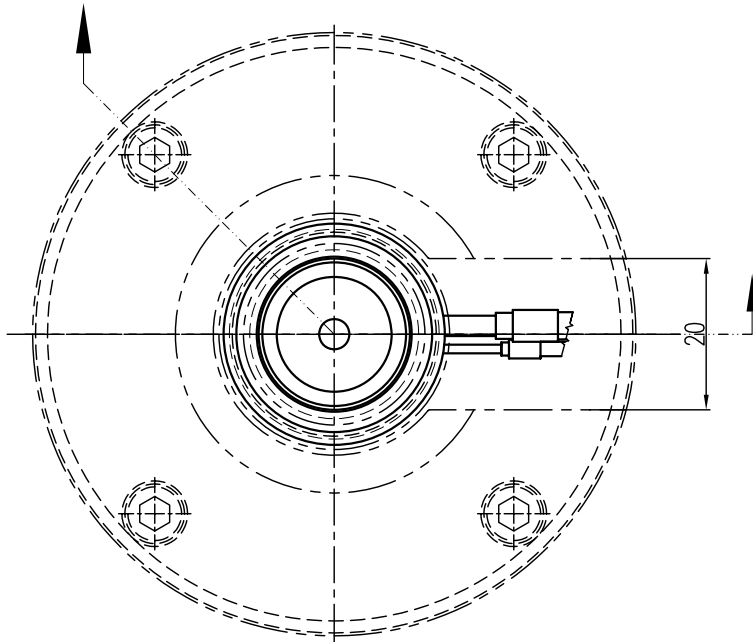
L	L1	Gate ϕ	Land	SR
40 - 135	16 - 60	0,8 - 1,5	3	13, 16, 20



Hot Sprue (HS)

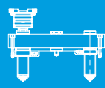
EX

- designed for high processing temperature or fast crystallization materials
- suited for all materials
- gating into the sub runners
- nozzle profile adjustments by the moldmaker required



Related to the scope of size (when out of range, special design needed)

L	L1	Gate \varnothing	Land	SR
40 - 135	16 - 60	1,0 - 2,5	3	13, 16, 20

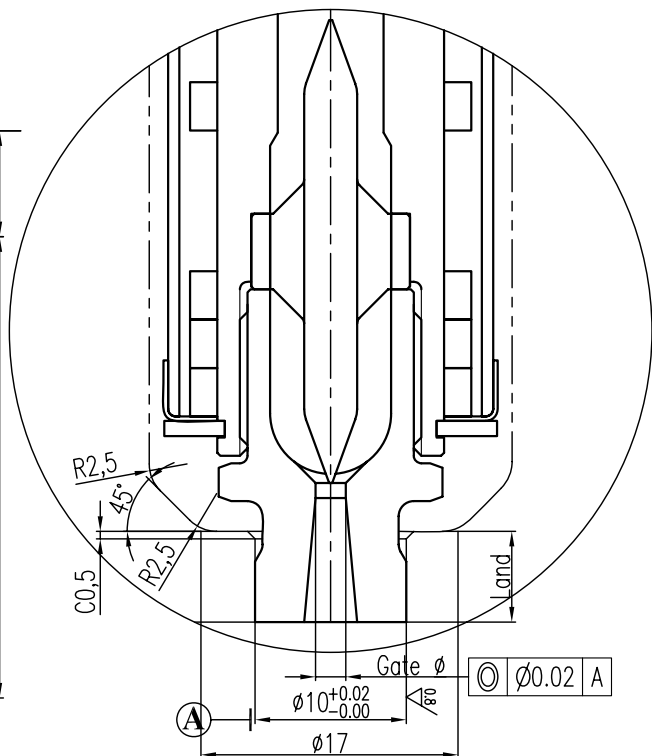
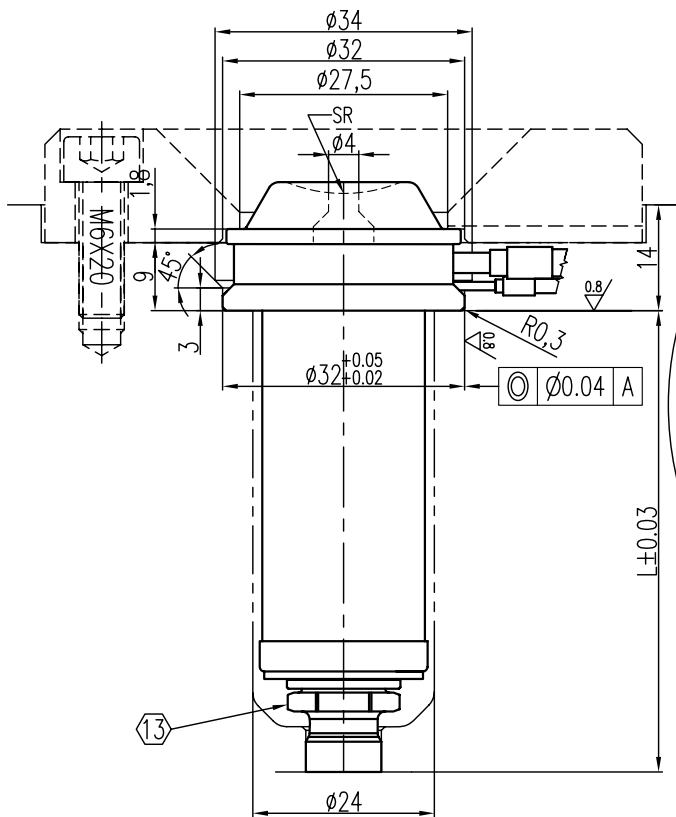
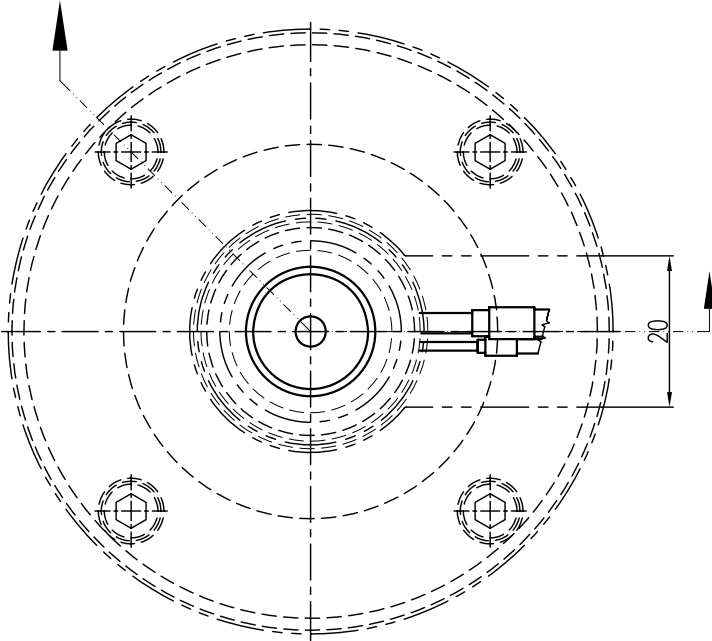


SX

Torpedo Bushing (TB)

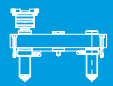


- designed for high processing temperature engineering materials
- gating into the sub runners
- nozzle profile adjustments by the moldmaker required



Related to the scope of size (when out of range, special design needed)

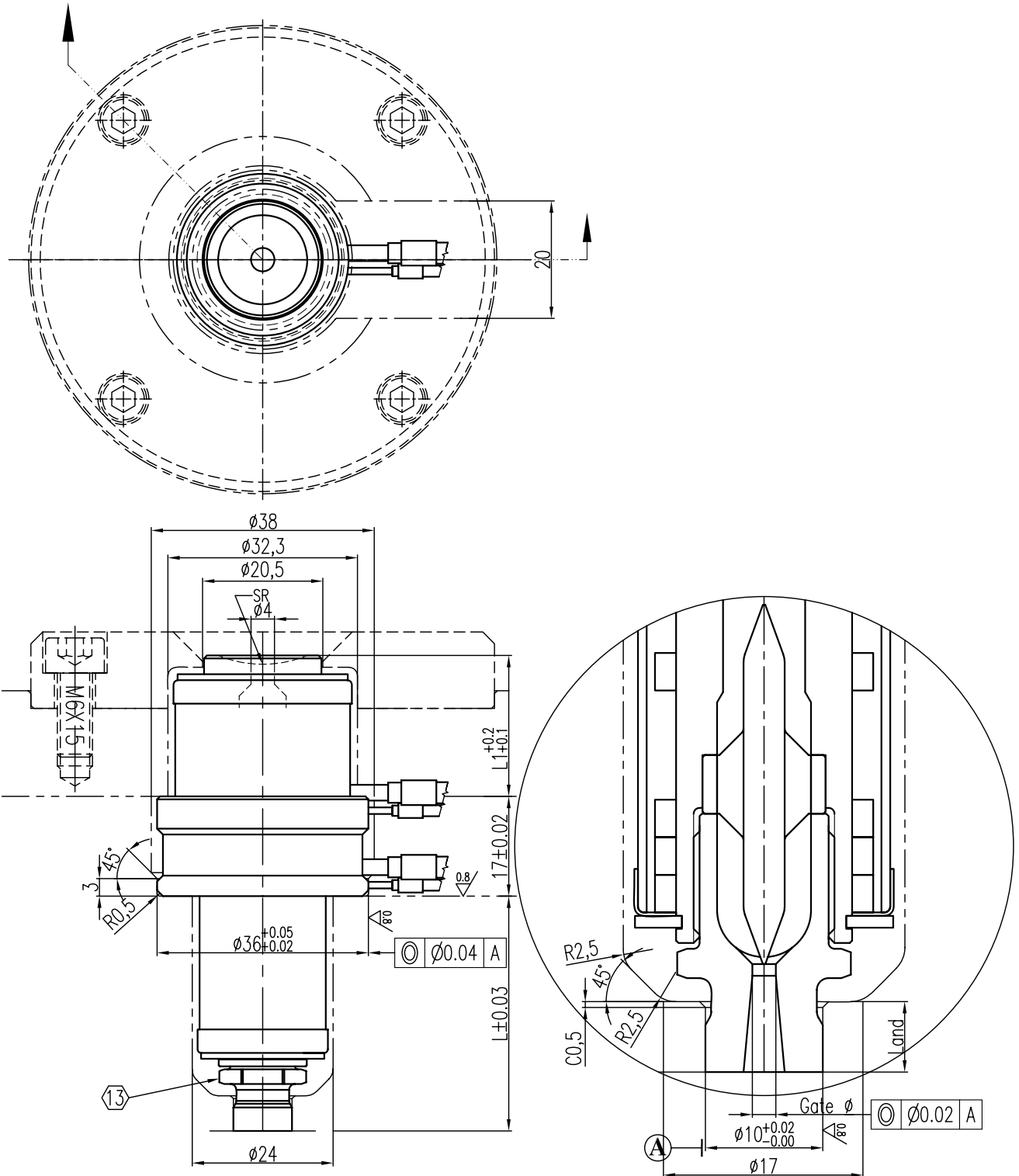
L	SR	Gate \varnothing	Land
50 - 135	13, 16, 20	1,2 - 2,5	6,0



Torpedo Bushing (TB)

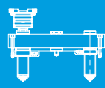
EX

- designed for high processing temperature engineering materials
- gating into the sub runners
- nozzle profile adjustments by the moldmaker required



Related to the scope of size (when out of range, special design needed)

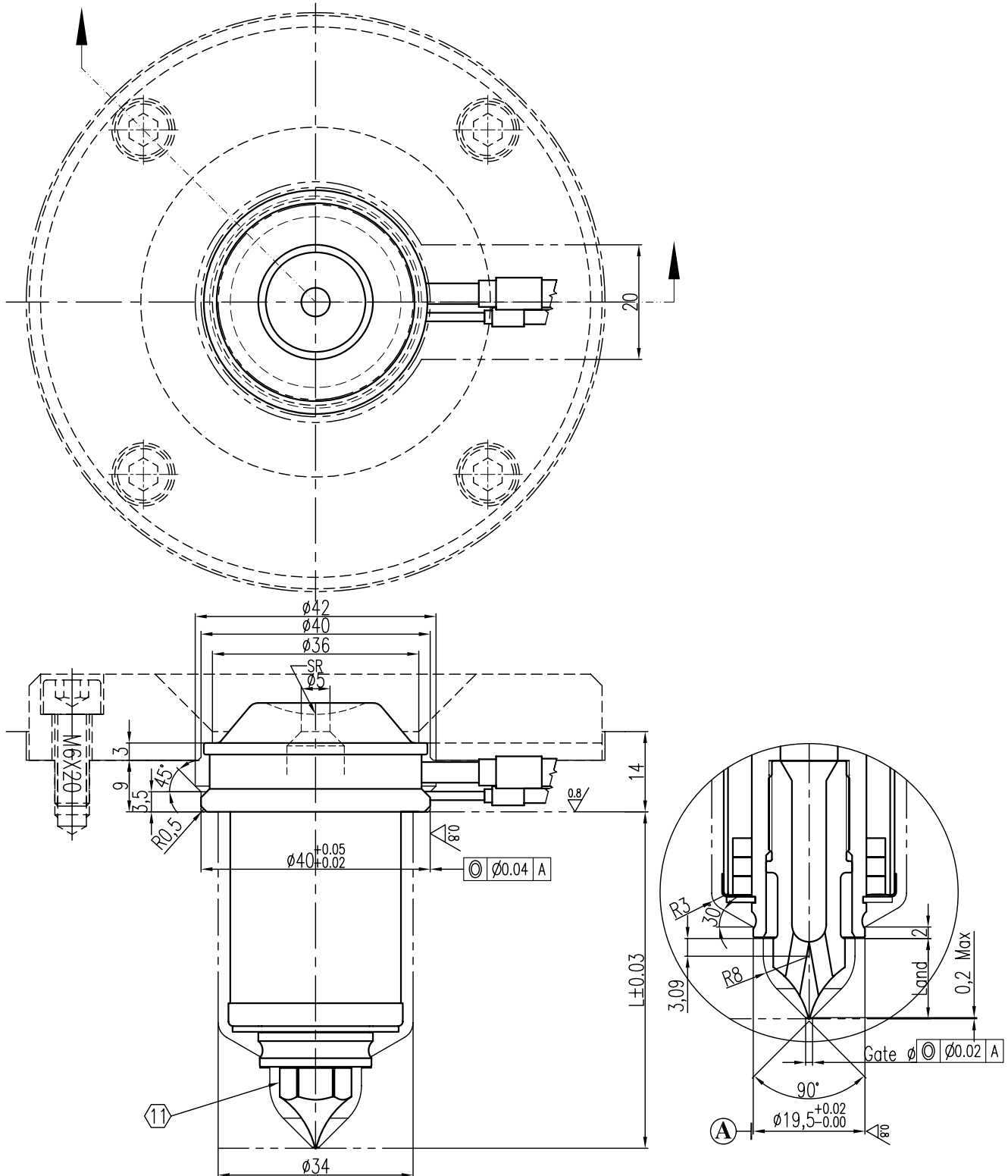
L	L1	SR	Gate ϕ	Land
50 - 135	16 - 60	13, 16, 20	1,2 - 2,5	6,0



SX

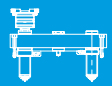
E-Type torpedo (ET)

- suited for amorphous and semi-crystalline materials
- not suited for color change



Related to the scope of size (when out of range, special design needed)

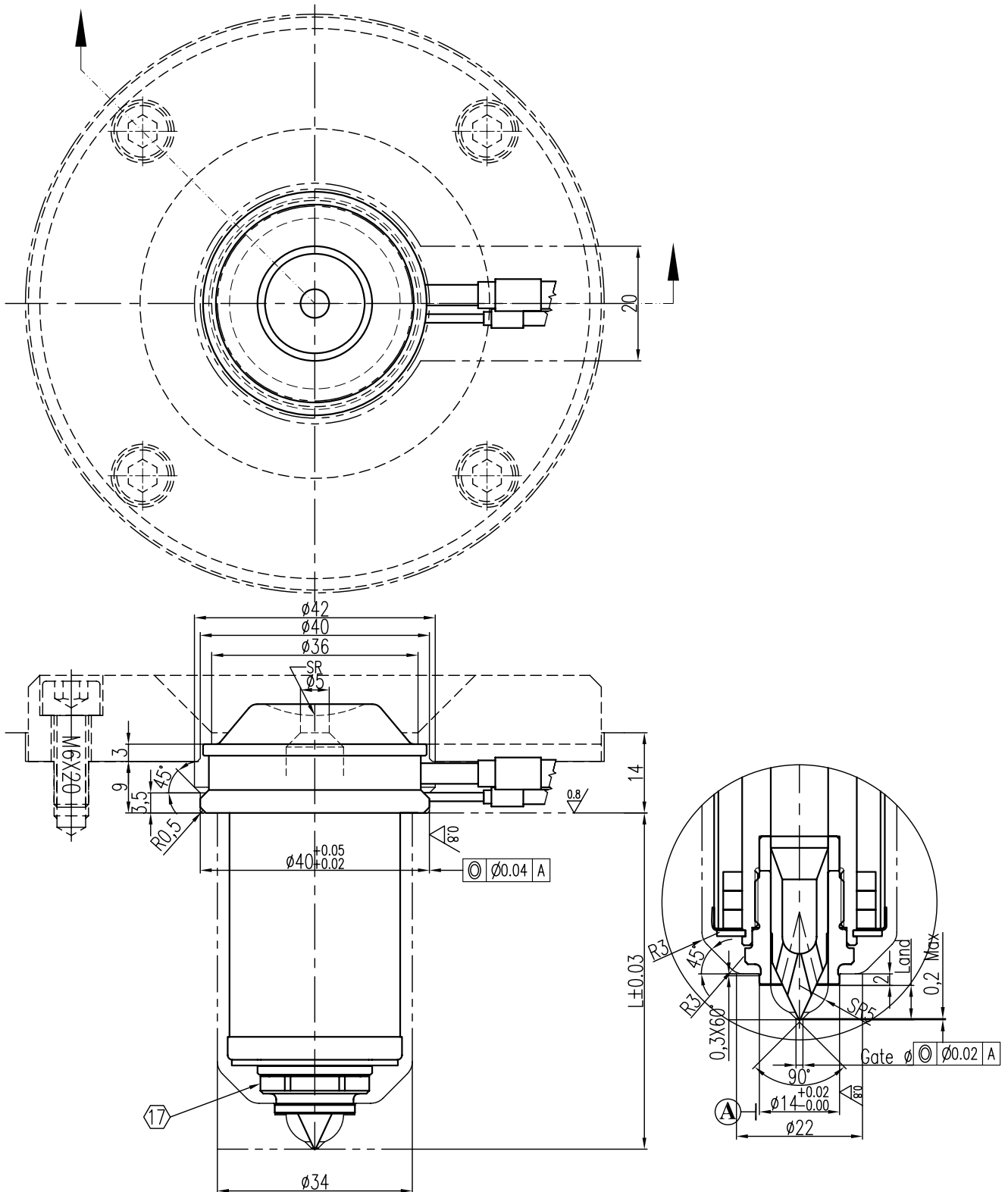
L	SR	Gate Ø	Land
40 - 250	13, 16, 20	1,0 - 2,0	14



SX

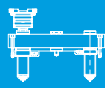
S-Type torpedo (ST)

- suited for amorphous and semi-crystalline materials
- not suited for color change



Related to the scope of size (when out of range, special design needed)

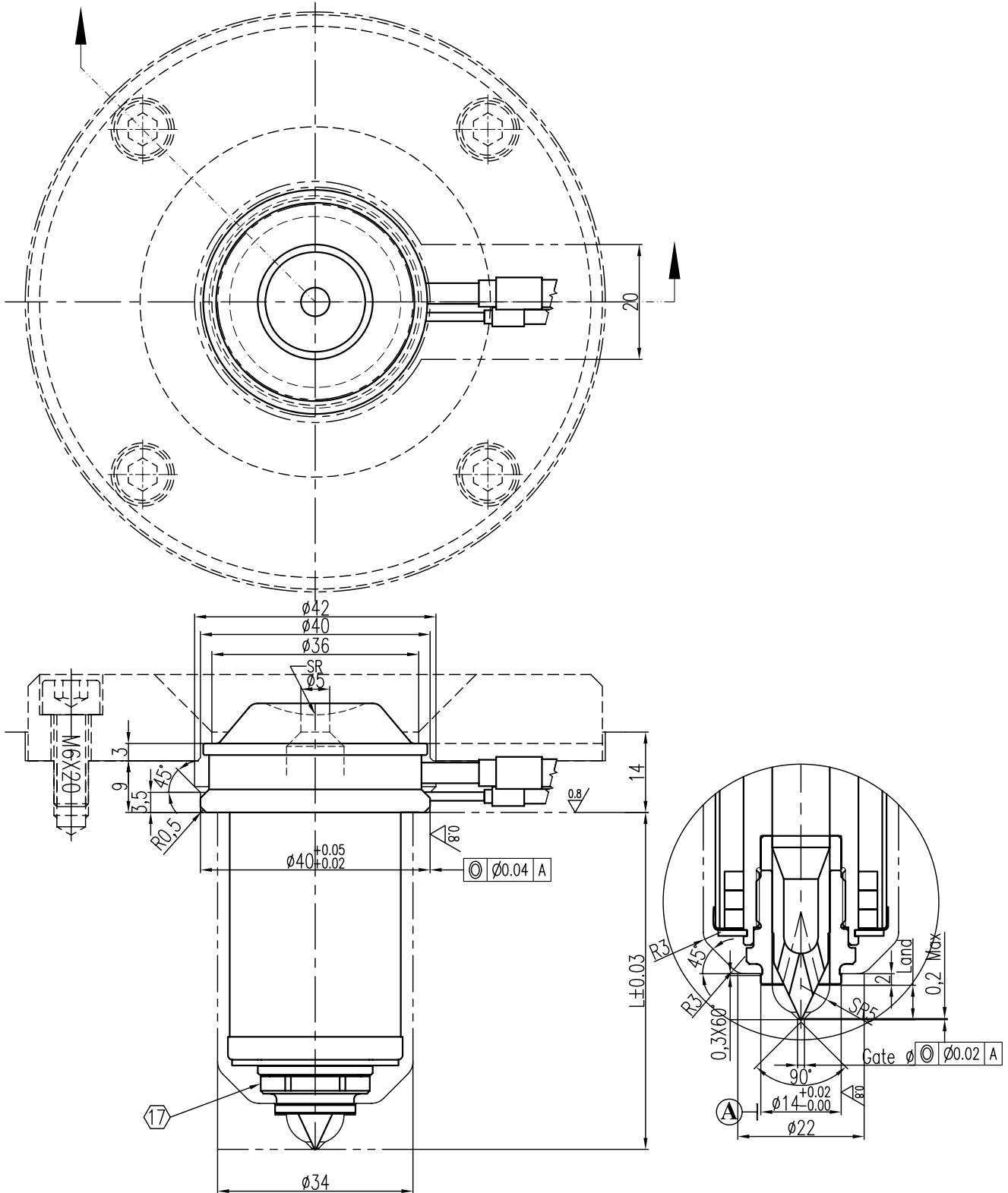
L	SR	Gate \varnothing	Land
40 - 250	13, 16, 20	1,0 - 2,0	6



SX

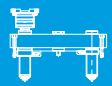
C-Type torpedo (CT)

- suited for amorphous and semi-crystalline materials
- suited for color change



Related to the scope of size (when out of range, special design needed)

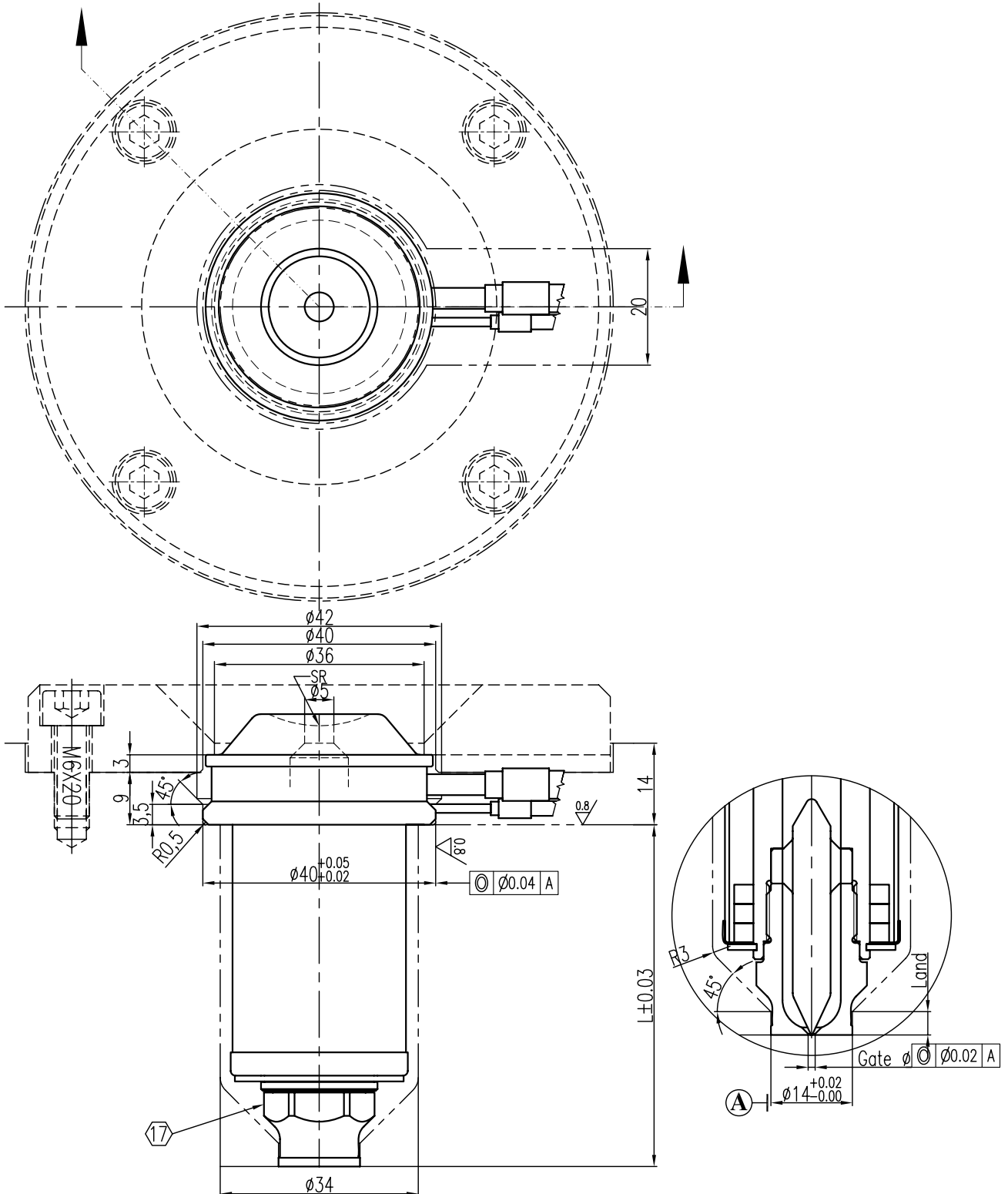
L	SR	Gate Ø	Land
40 - 250	13, 16, 20	1,0 - 2,0	6



SX

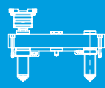
C-type torpedo with bushing (CTB)

- suited for crystalline materials
- simplifies mold manufacturing
- suited for color change



Related to the scope of size (when out of range, special design needed)

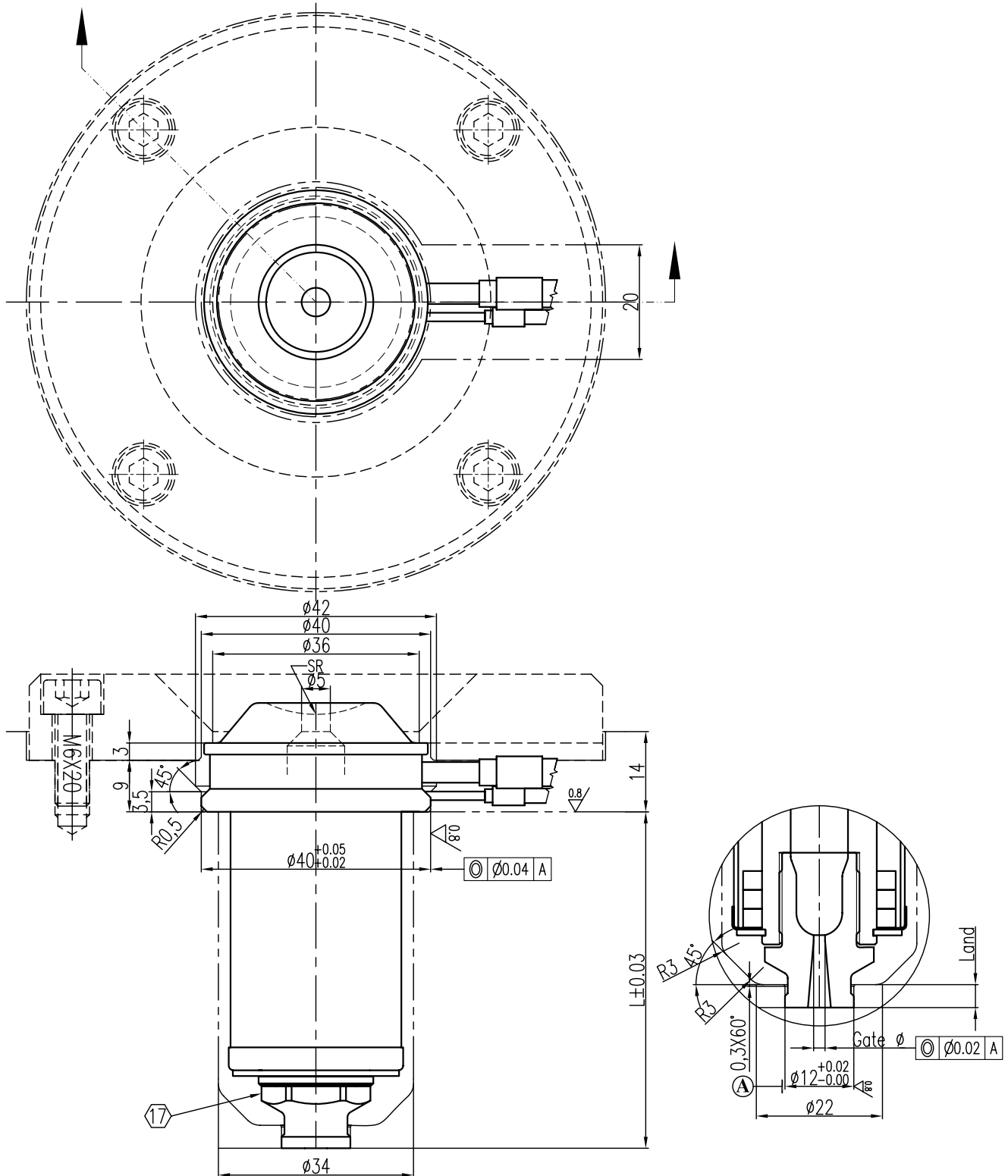
L	SR	Gate Ø	Land
40 - 250	13, 16, 20	1,0 - 2,0	4



SX

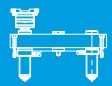
Hot Sprue (HS)

- suited for all materials
- gating into the sub runners
- nozzle profile adjustments by the moldmaker required



Related to the scope of size (when out of range, special design needed)

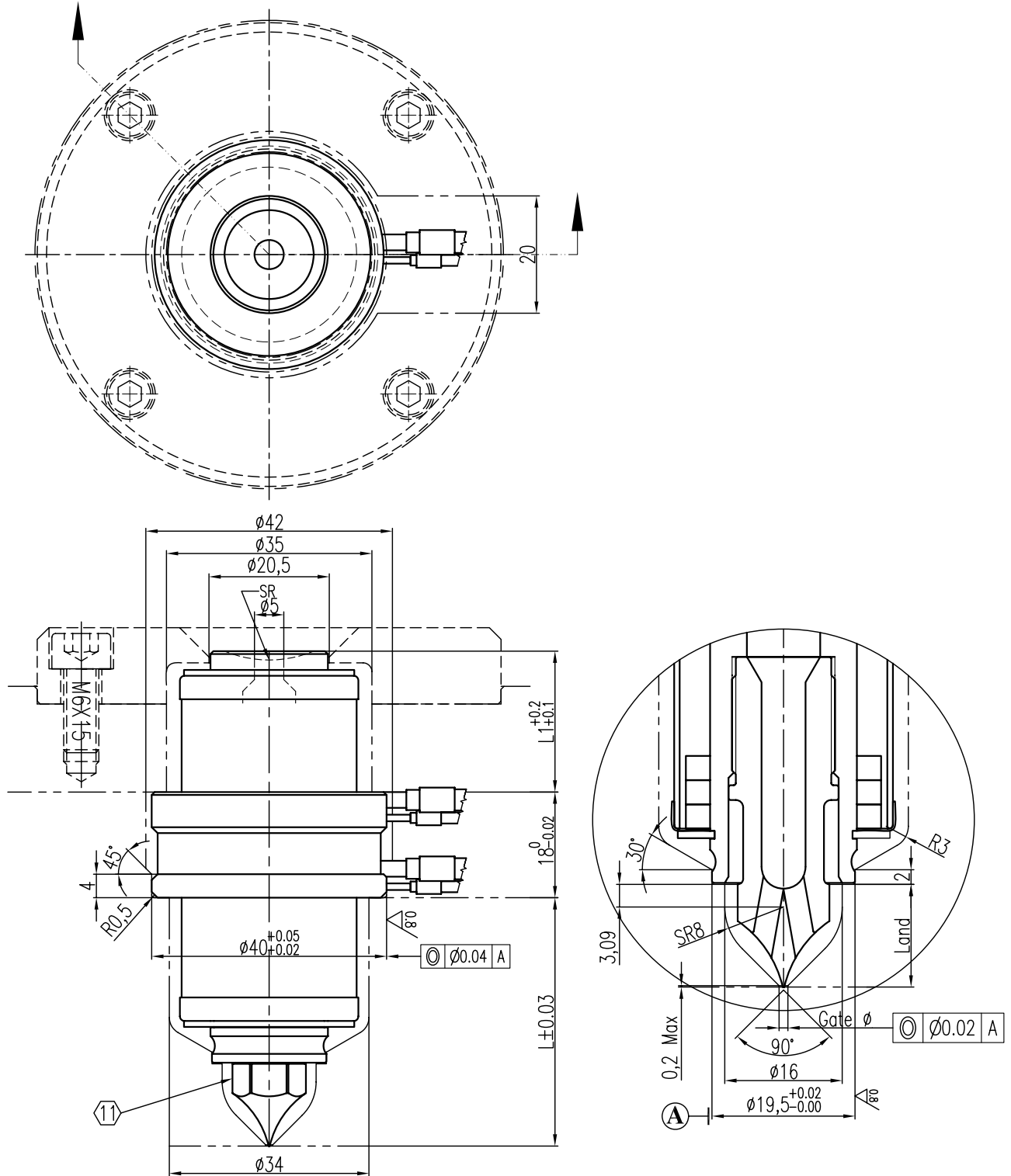
L	SR	Gate Ø	Land
40 - 250	13, 16, 20	1,0 - 2,5	4



E-type torpedo (ET)

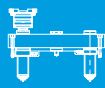
EX

- designed for high processing temperature materials
- suited for amorphous and semi-crystalline materials
- not suited for color change



Related to the scope of size (when out of range, special design needed)

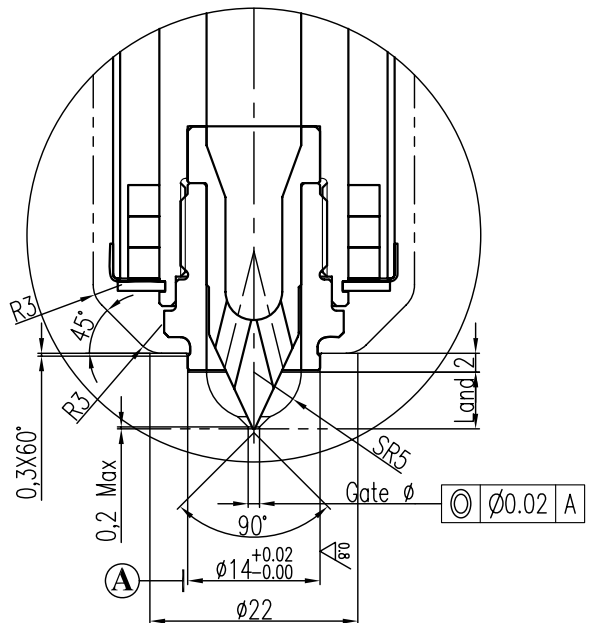
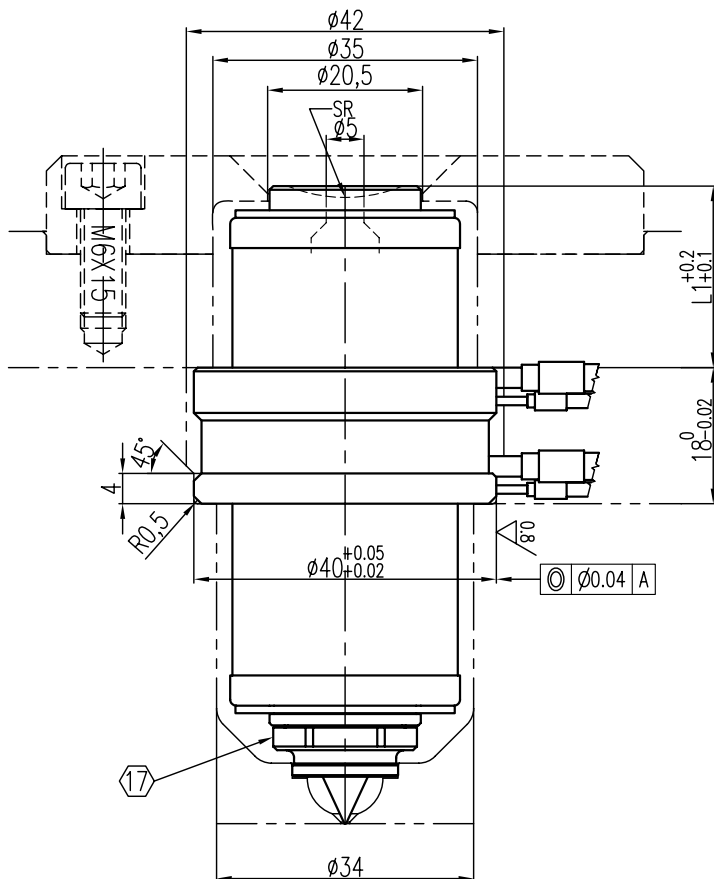
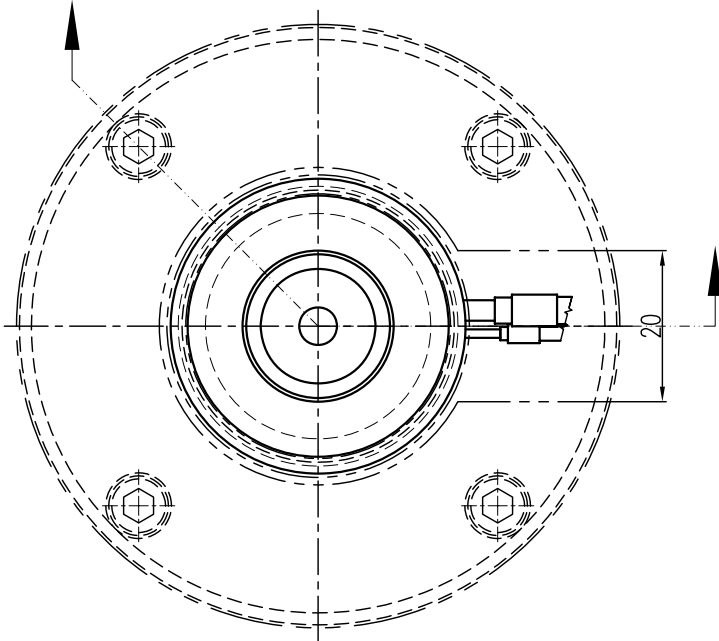
L	L1	Gate Ø	Land	SR
40 - 250	16 - 60	1,0 - 2,0	14	13, 16, 20



EX

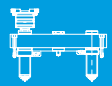
S-type torpedo (ST)

- designed for high processing temperature materials
- suited for amorphous and semi-crystalline materials
- not suited for color change



Related to the scope of size (when out of range, special design needed)

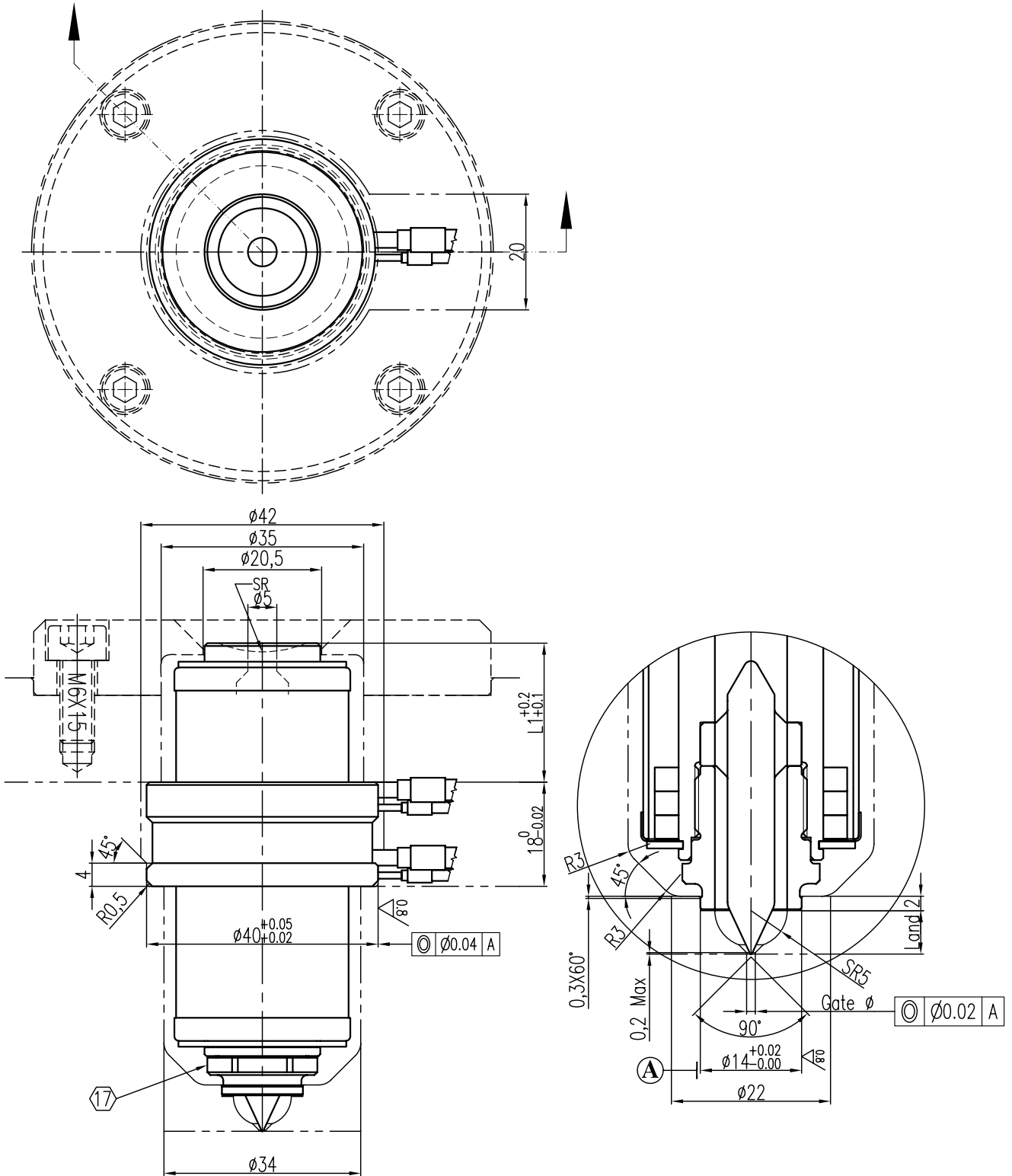
L	L1	Gate ϕ	Land	SR
40 - 250	16 - 60	1,0 - 2,0	6	13, 16, 20



C-type torpedo (CT)

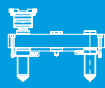
EX

- designed for high processing temperature materials
- suited for amorphous and semi-crystalline materials
- not suited for color change



Related to the scope of size (when out of range, special design needed)

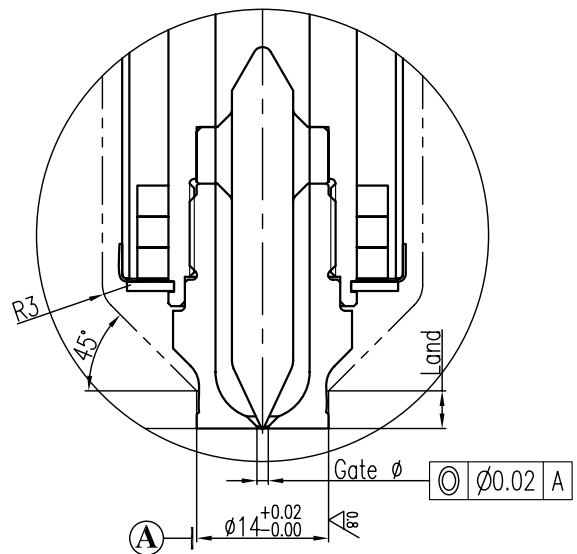
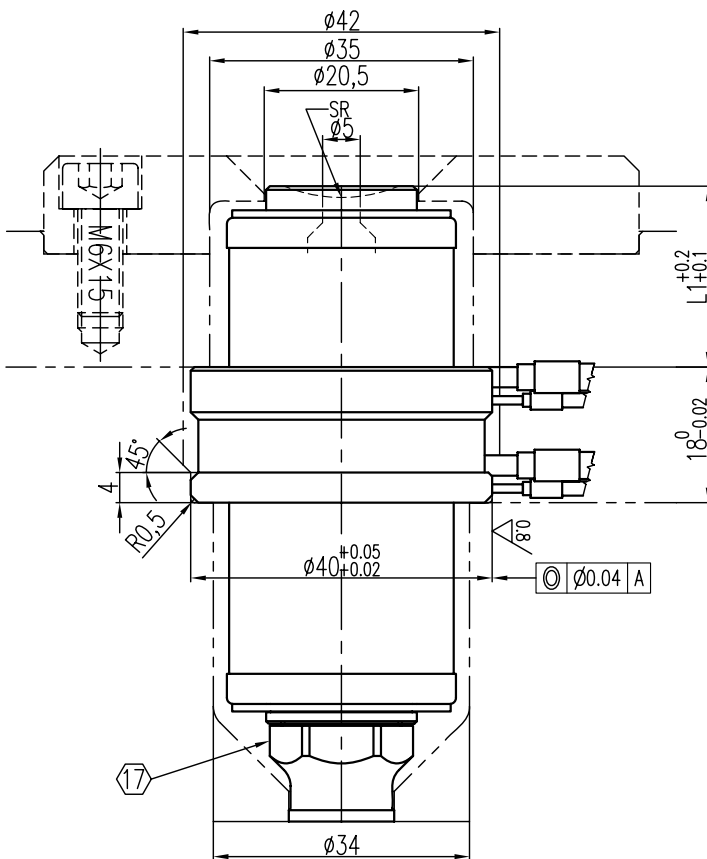
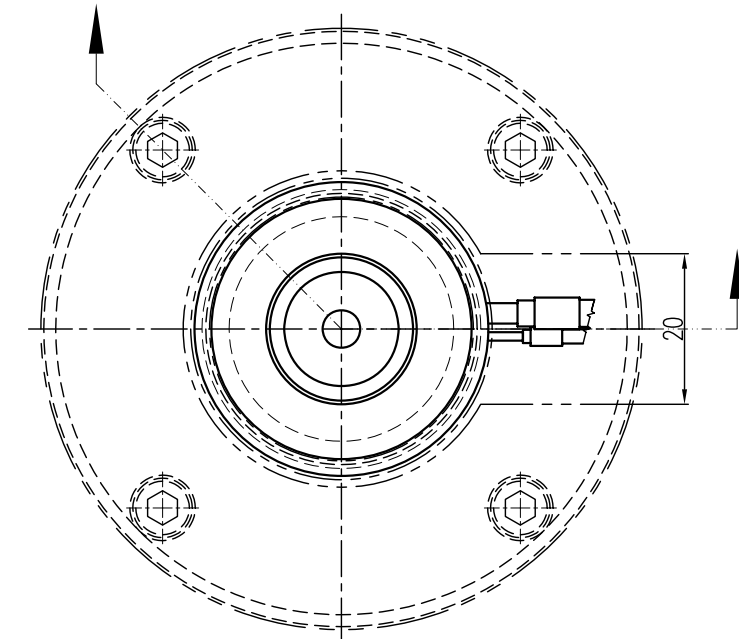
L	L1	Gate ϕ	Land	SR
40 - 250	16 - 60	1,0 - 2,0	6	13, 16, 20



EX

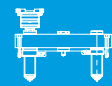
C-type torpedo with bushing (CTB)

- designed for high processing temperature materials
- suited for crystalline materials
- simplifies mold manufacturing
- not suited for color change



Related to the scope of size (when out of range, special design needed)

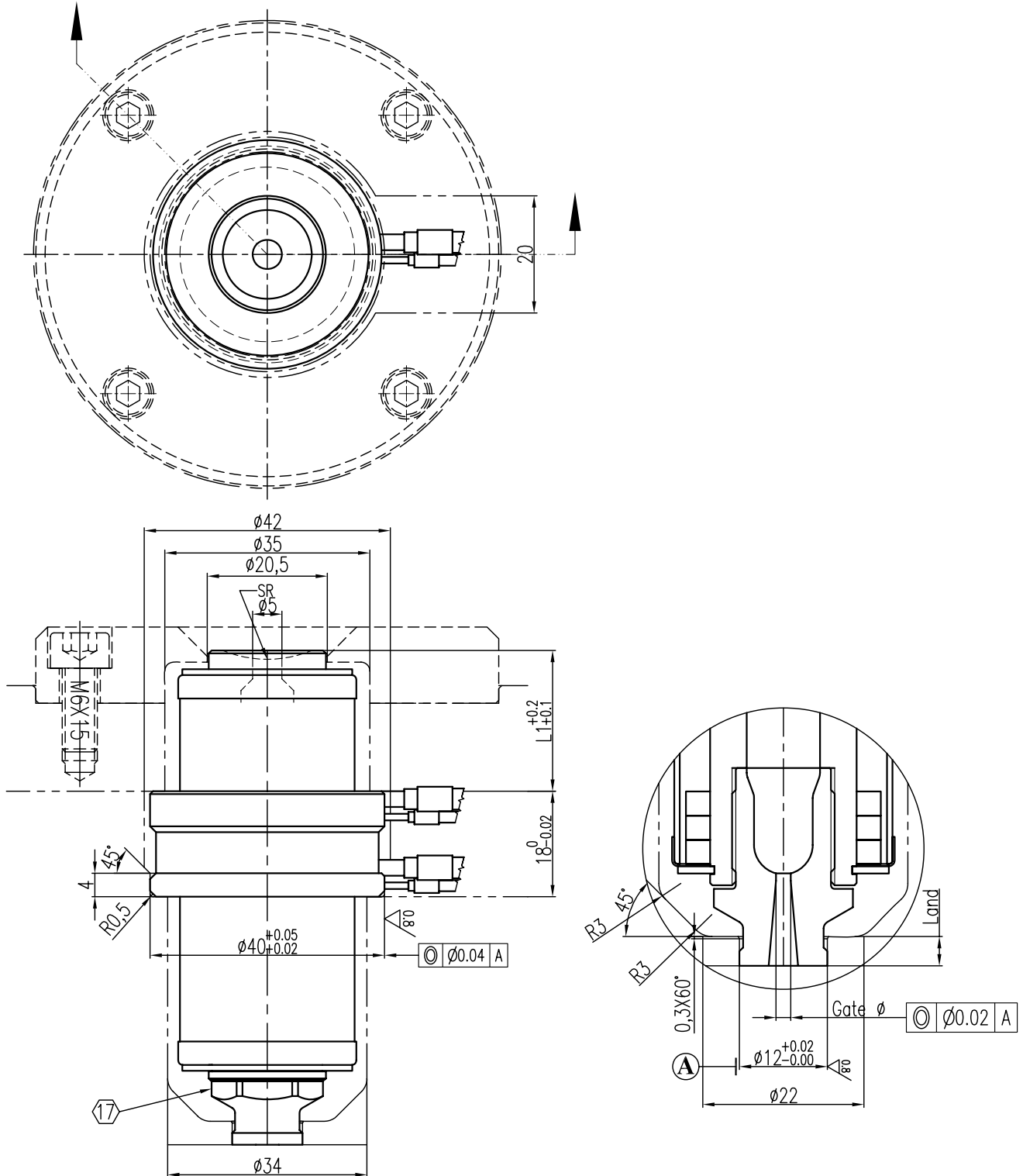
L	L1	Gate ϕ	Land	SR
40 - 250	16 - 60	1,0 - 2,0	4	13, 16, 20



Hot Sprue (HS)

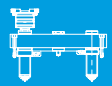
EX

- designed for high processing temperature or fast crystallization materials
- suited for all materials
- gating into the sub runners
- nozzle profile adjustments by the moldmaker required



Related to the scope of size (when out of range, special design needed)

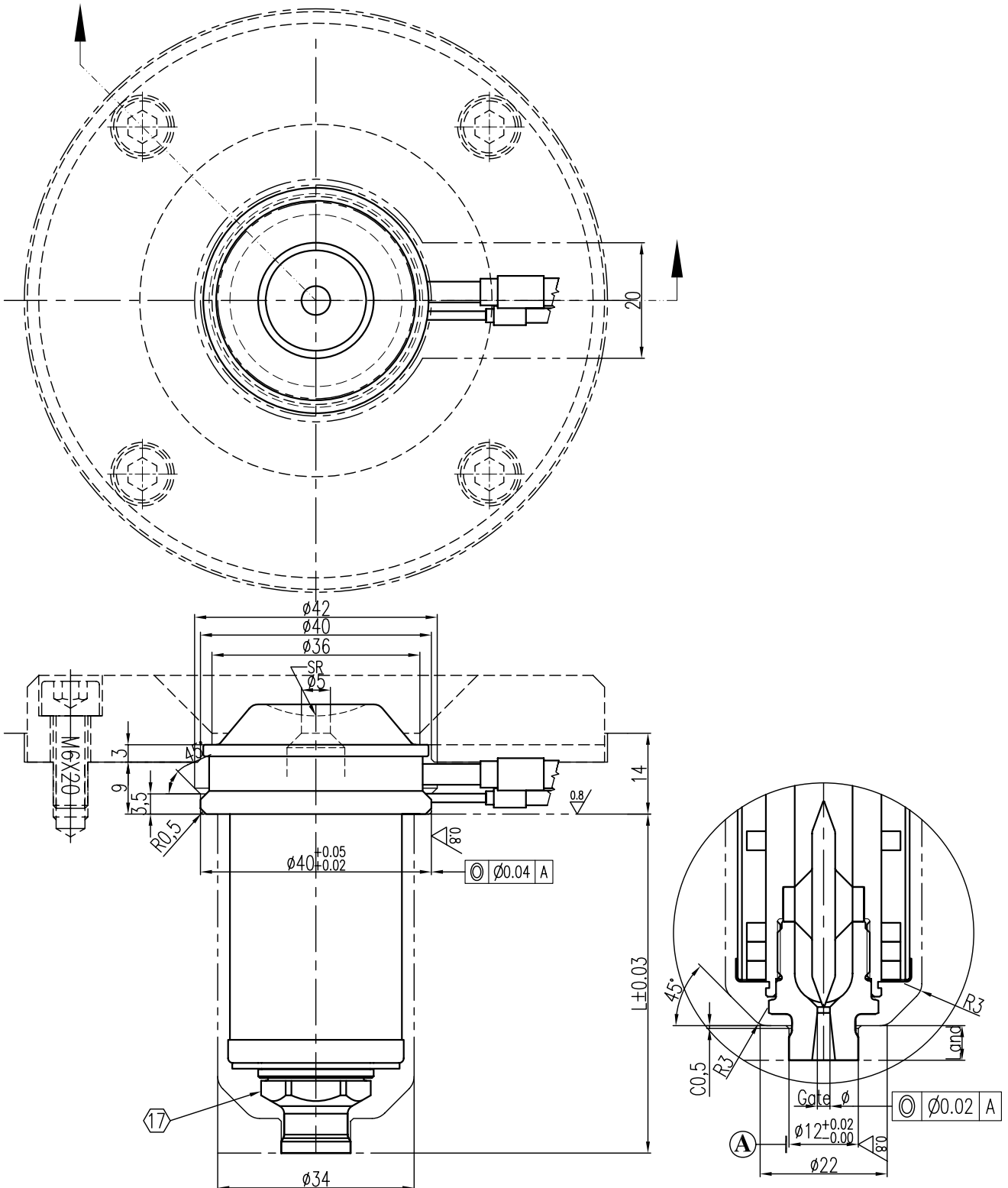
L	L1	Gate Ø	Land	SR
40 - 250	16 - 60	1,0 - 2,5	4	13, 16, 20



Torpedo Bushing (TB)

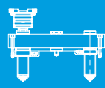
SX

- designed for high processing temperature engineering materials
- gating into the sub runners
- nozzle profile adjustments by the moldmaker required



Related to the scope of size (when out of range, special design needed)

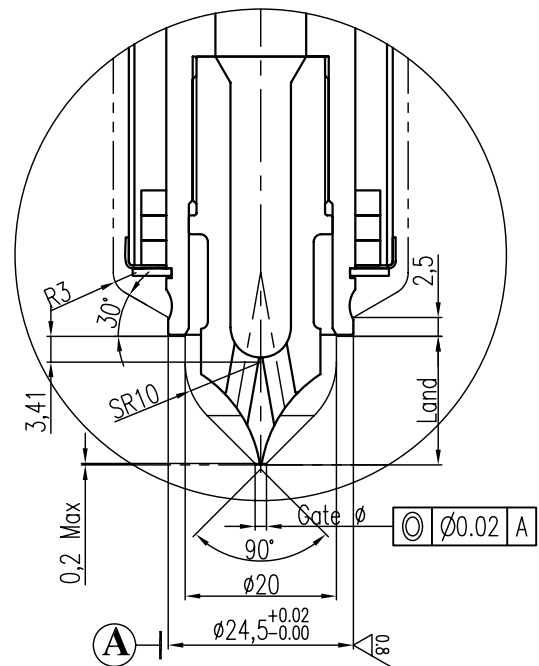
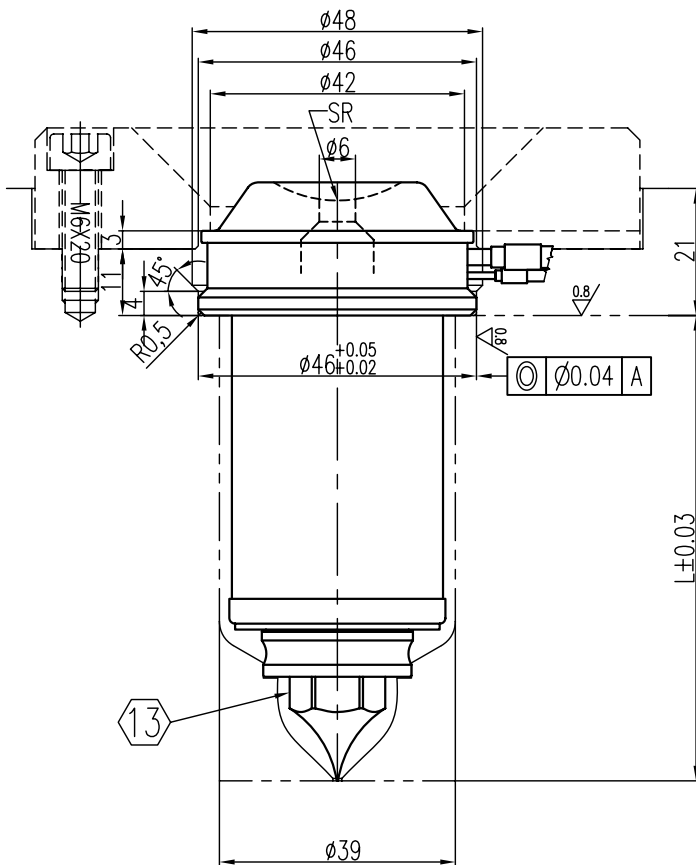
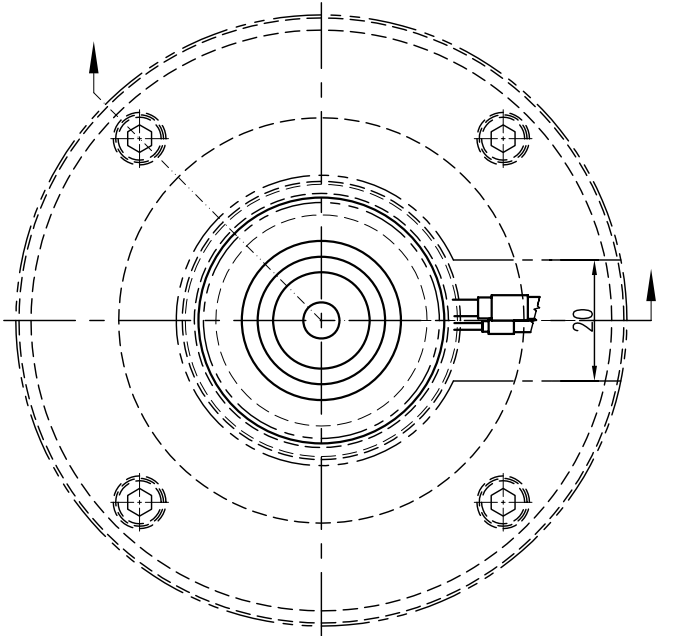
L	SR	Gate ϕ	Land
40 - 250	13, 16, 20	1,5 - 3,0	6,0



SX

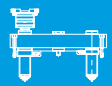
E-Type torpedo (ET)

- suited for amorphous and semi-crystalline materials
- not suited for color change



Related to the scope of size (when out of range, special design needed)

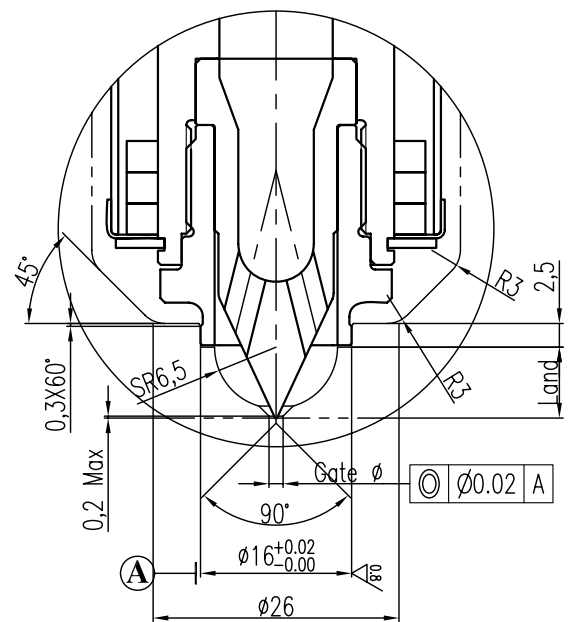
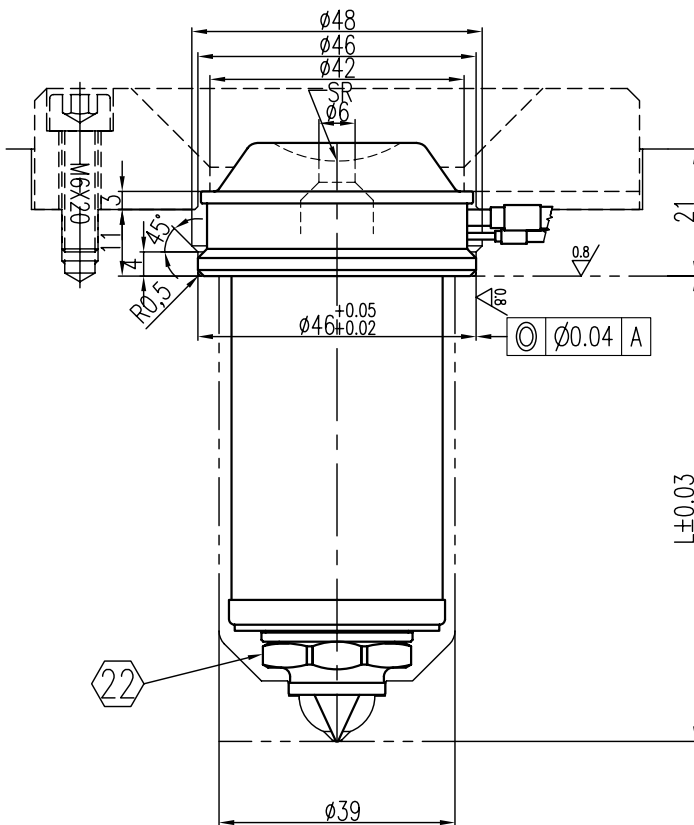
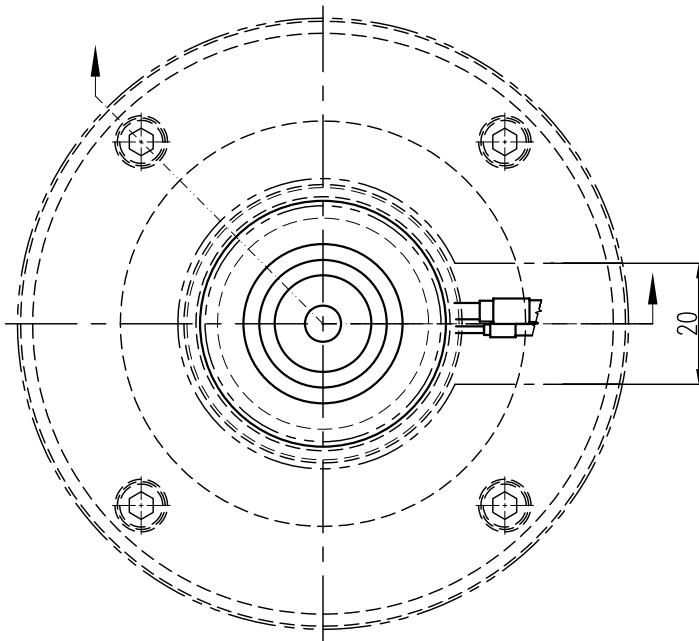
L	SR	Gate Ø	Land
50 - 350	13, 16, 20	1,2 - 2,5	17



SX

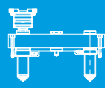
S-Type torpedo (ST)

- suited for amorphous and semi-crystalline materials
- not suited for color change



Related to the scope of size (when out of range, special design needed)

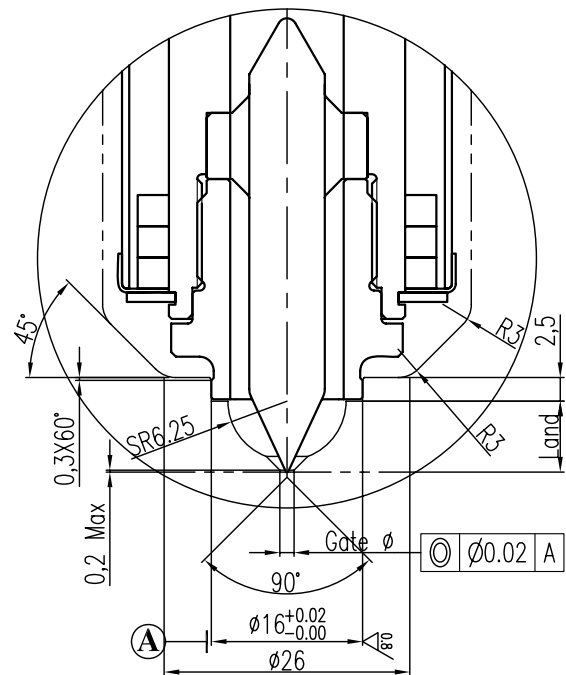
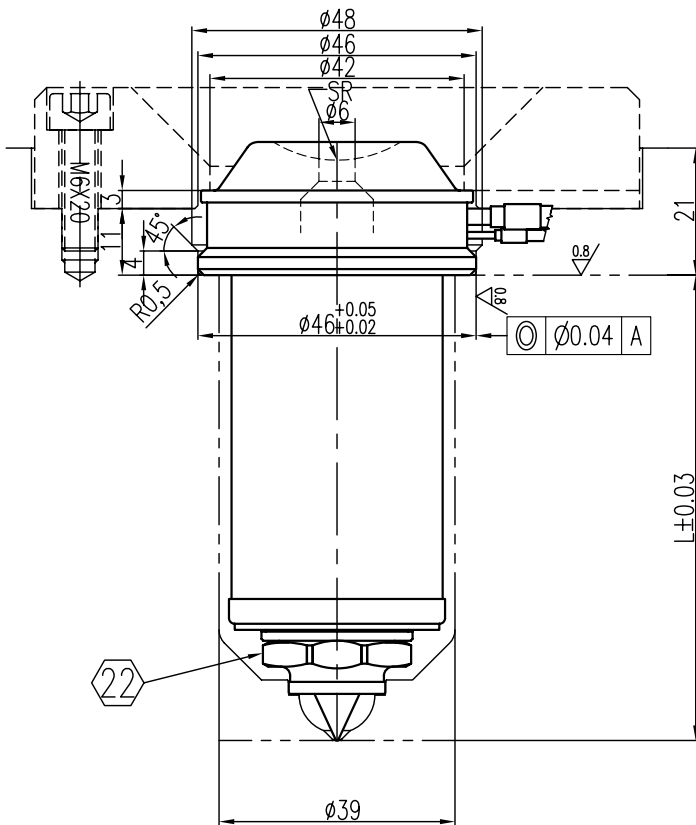
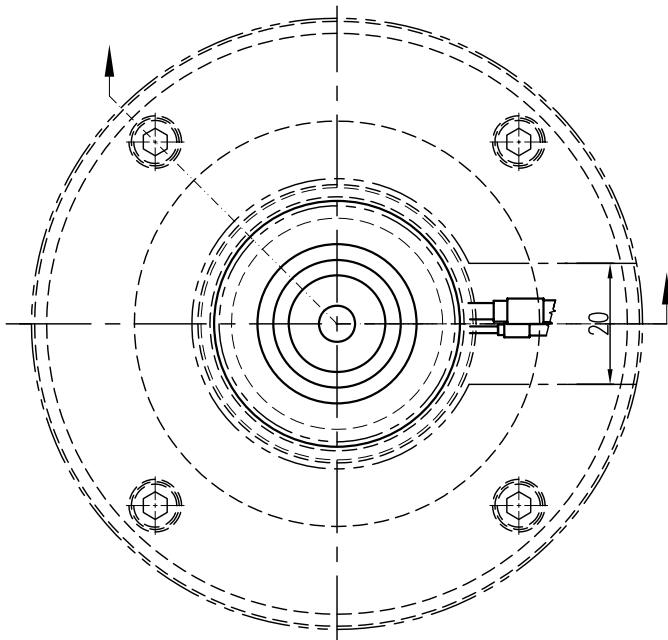
L	SR	Gate Ø	Land
50 - 350	13, 16, 20	1,2 - 2,5	7,5



SX

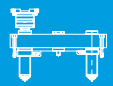
C-Type torpedo (CT)

- suited for amorphous and semi-crystalline materials
- suited for color change



Related to the scope of size (when out of range, special design needed)

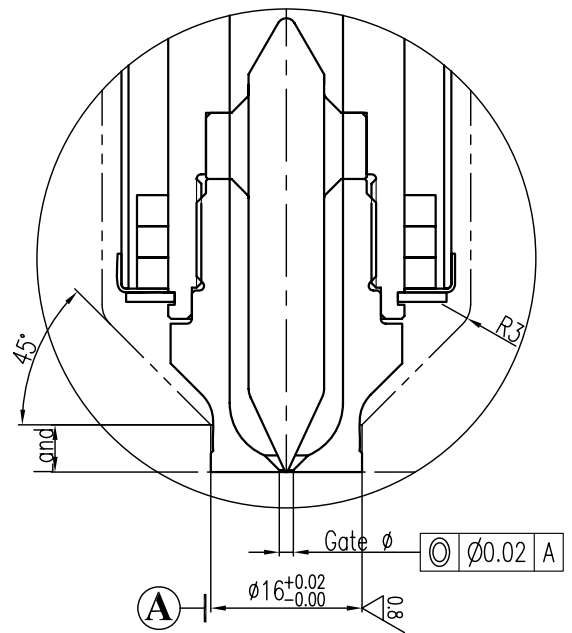
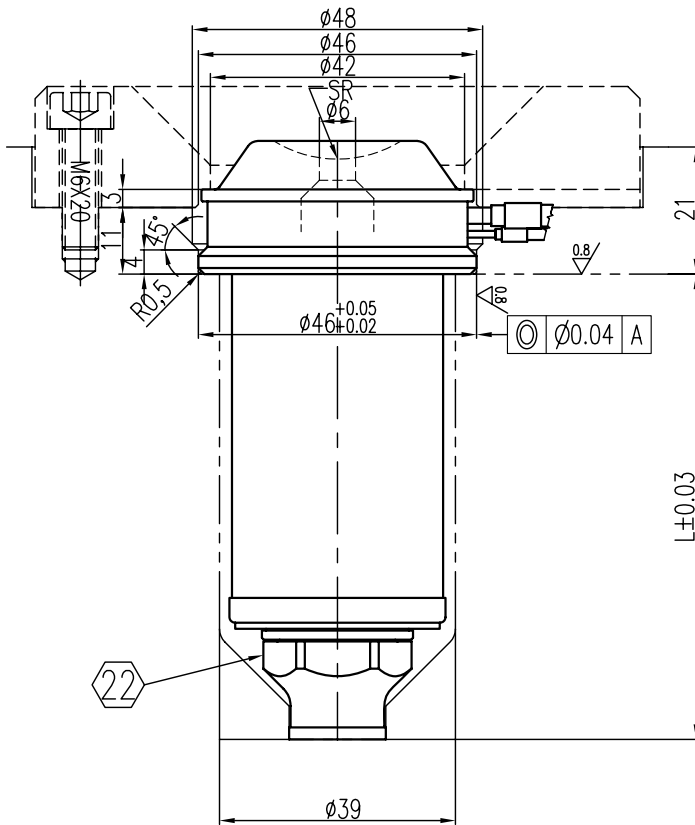
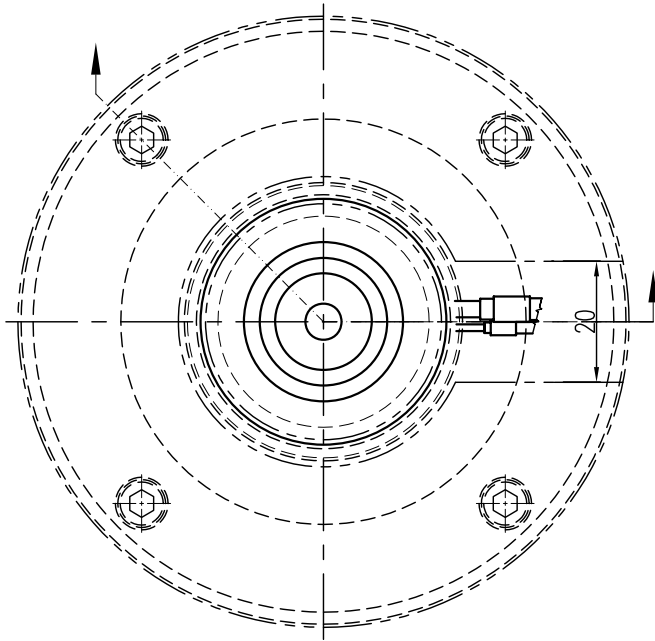
L	SR	Gate \varnothing	Land
50 - 350	13, 16, 20	1,2 - 2,5	7,7



SX

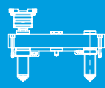
C-type torpedo with bushing (CTB)

- suited for crystalline materials
- simplifies mold manufacturing
- suited for color change



Related to the scope of size (when out of range, special design needed)

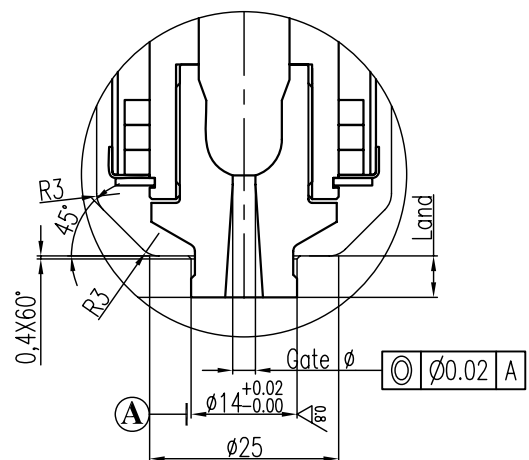
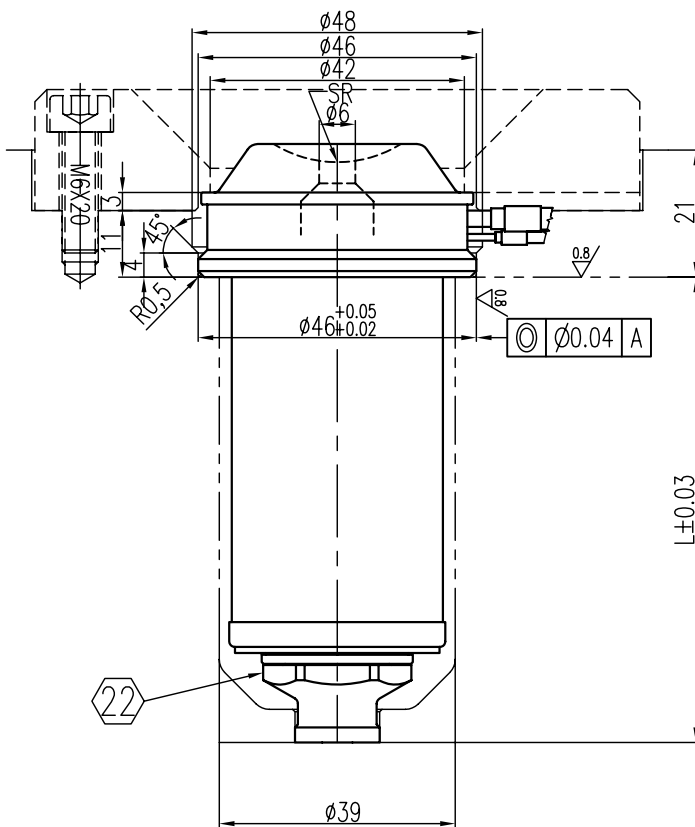
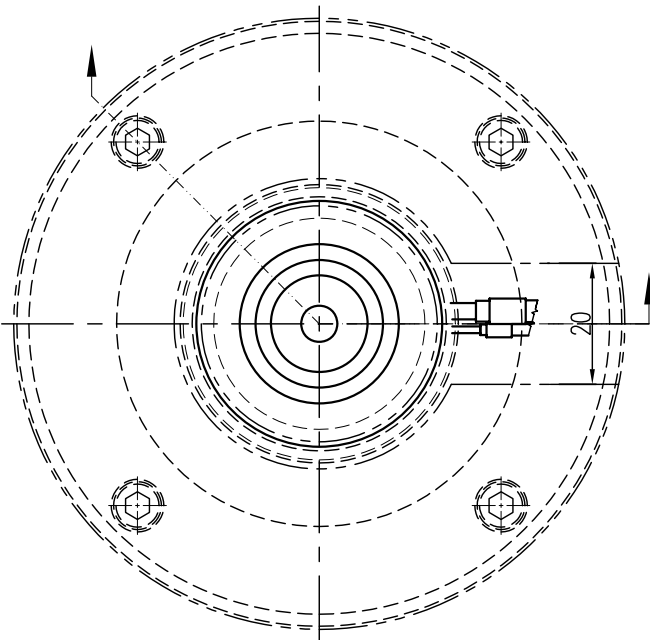
L	SR	Gate ϕ	Land
50 - 350	13, 16, 20	1,2 - 2,5	5



SX

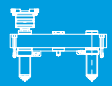
Hot Sprue (HS)

- suited for all materials
- gating into the sub runners
- nozzle profile adjustments by the moldmaker required



Related to the scope of size (when out of range, special design needed)

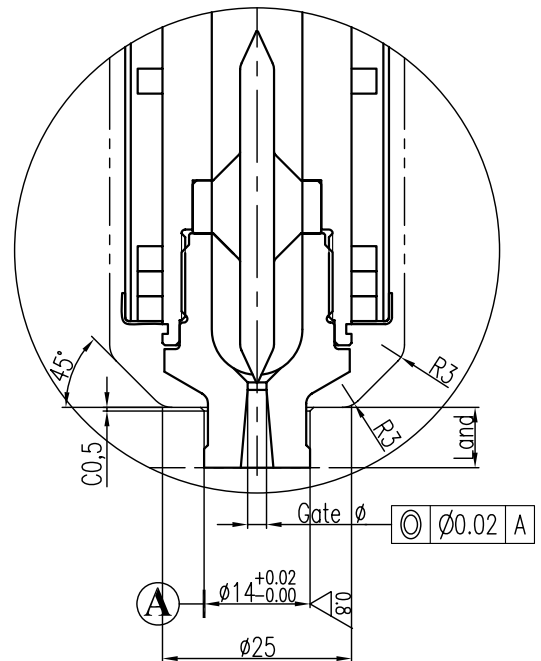
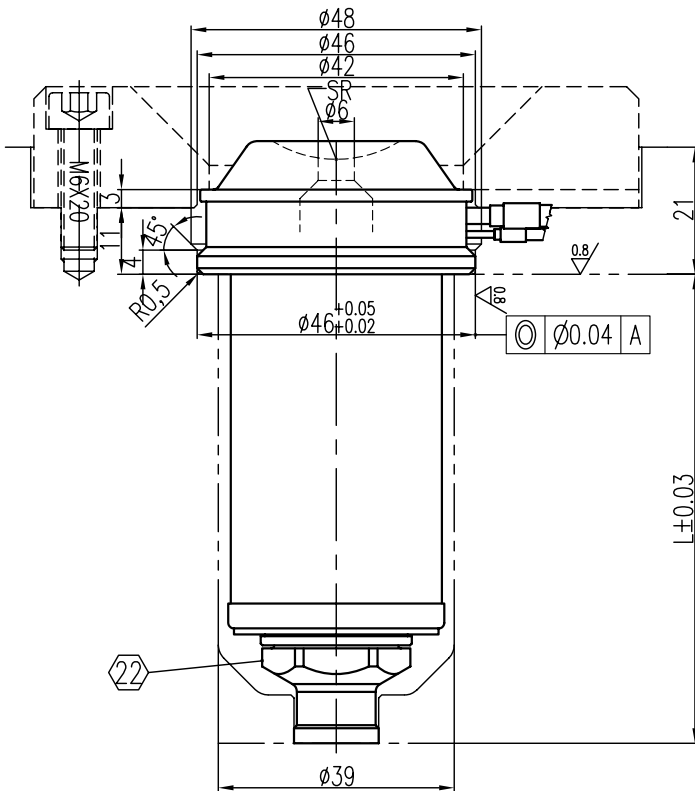
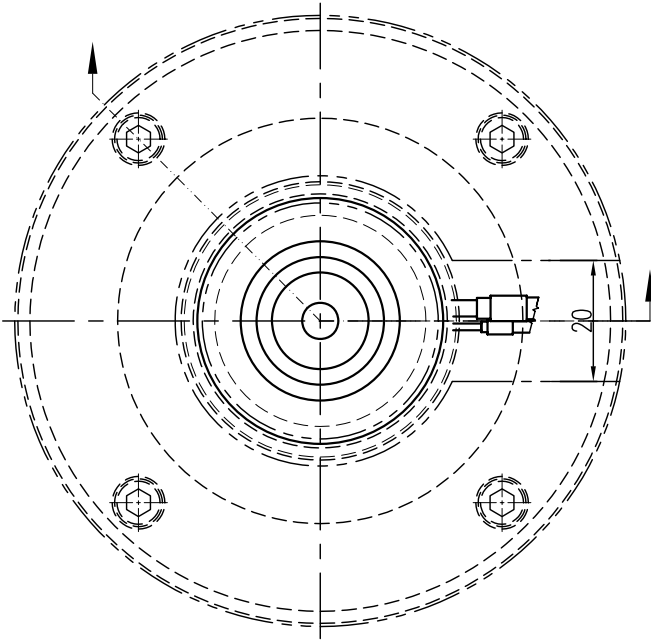
L	SR	Gate Ø	Land
50 - 350	13, 16, 20	1,5 - 3,5	5



Torpedo Bushing (TB)

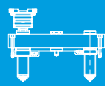
SX

- designed for high processing temperature engineering materials
- gating into the sub runners
- nozzle profile adjustments by the moldmaker required



Related to the scope of size (when out of range, special design needed)

L	SR	Gate ϕ	Land
50 - 350	13, 16, 20	1,8 - 3,5	8,0

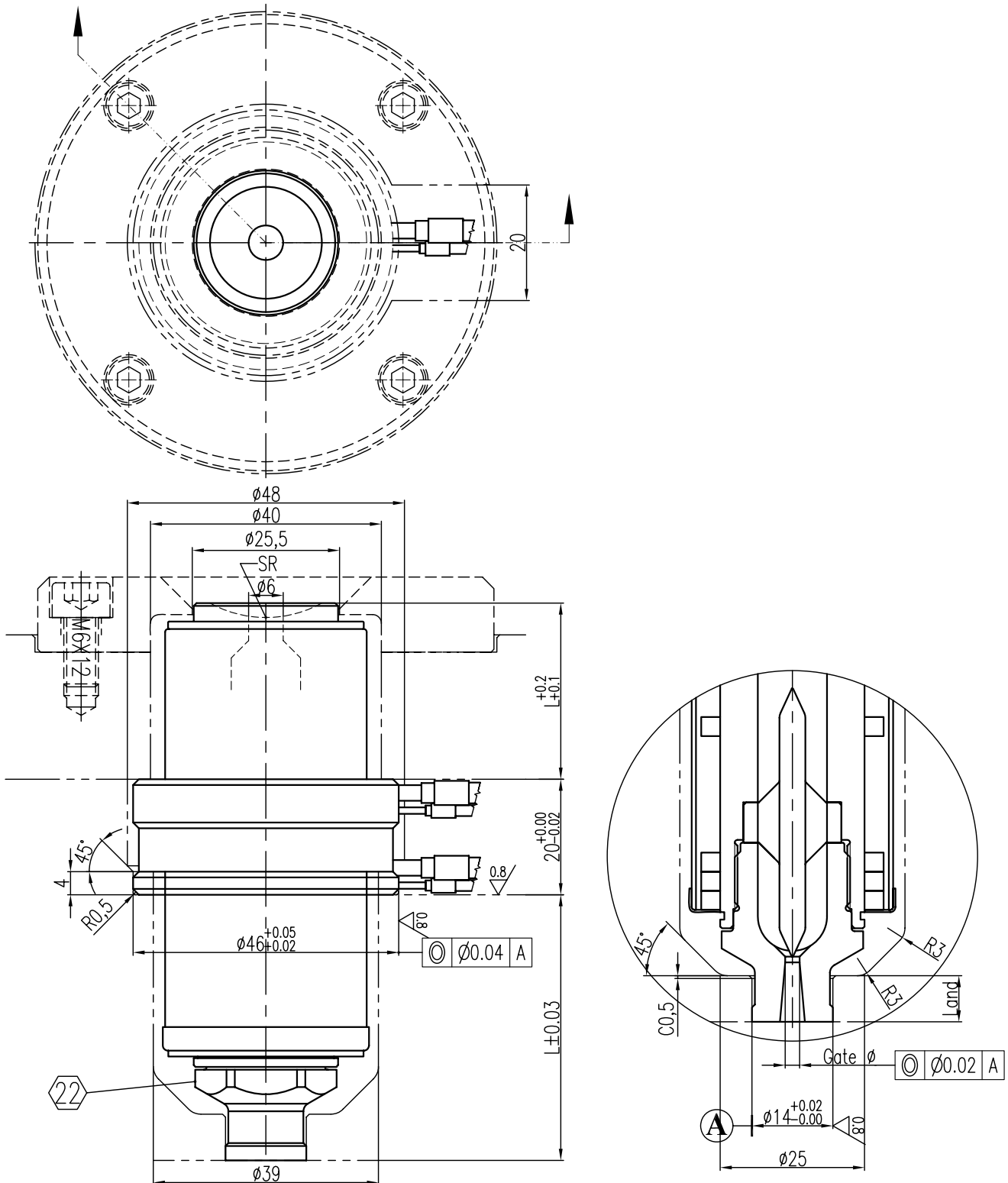


EX

Torpedo Bushing (TB)

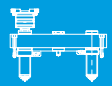


- designed for high processing temperature engineering materials
- gating into the sub runners
- nozzle profile adjustments by the moldmaker required



Related to the scope of size (when out of range, special design needed)

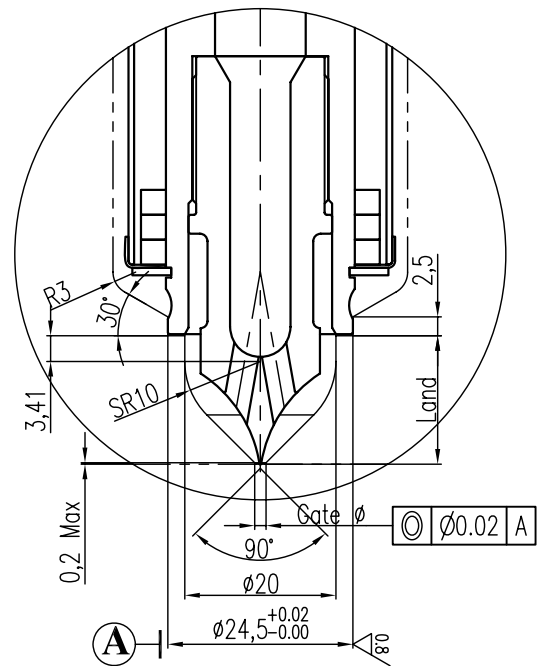
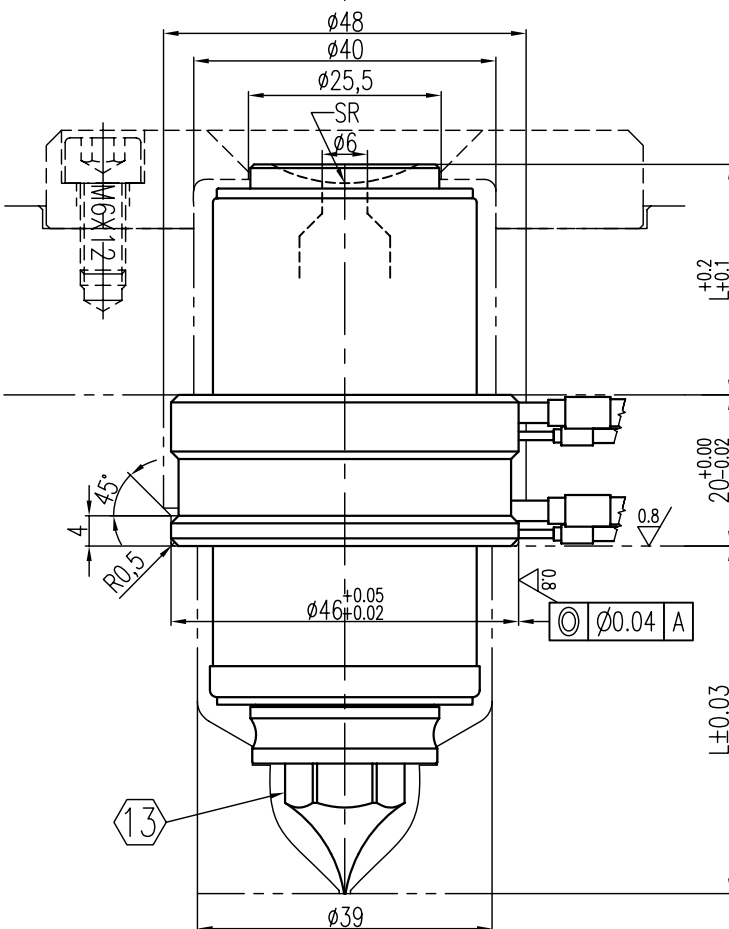
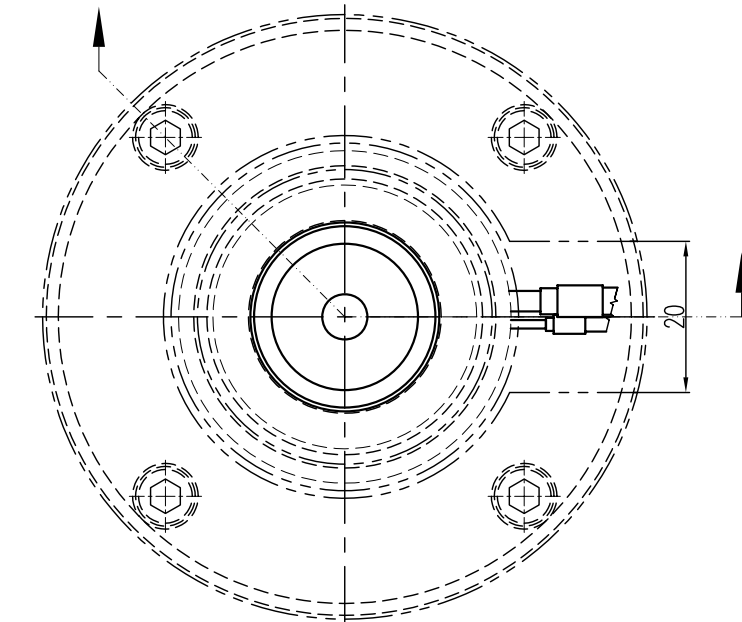
L	L1	SR	Gate Ø	Land
50 - 350	20 - 80	13, 16, 20	1,8 - 3,5	8,0



EX

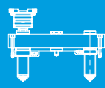
E-type torpedo (ET)

- designed for high processing temperature materials
- suited for amorphous and semi-crystalline materials
- not suited for color change



Related to the scope of size (when out of range, special design needed)

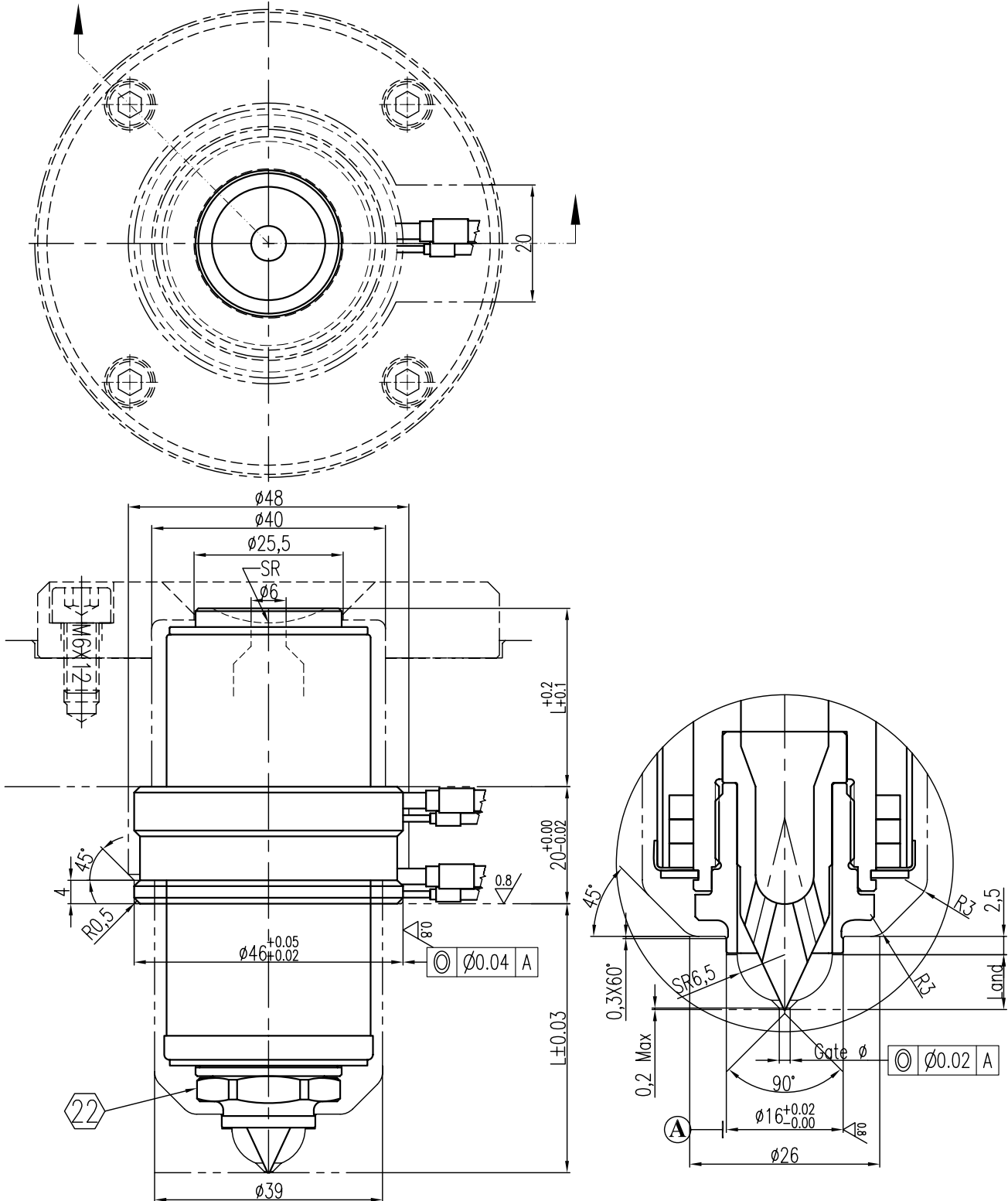
L	L1	Gate Ø	Land	SR
50 - 350	20 - 80	1,2 - 2,5	17	13, 16, 20



EX

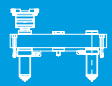
S-type torpedo (ST)

- designed for high processing temperature materials
- suited for amorphous and semi-crystalline materials
- not suited for color change



Related to the scope of size (when out of range, special design needed)

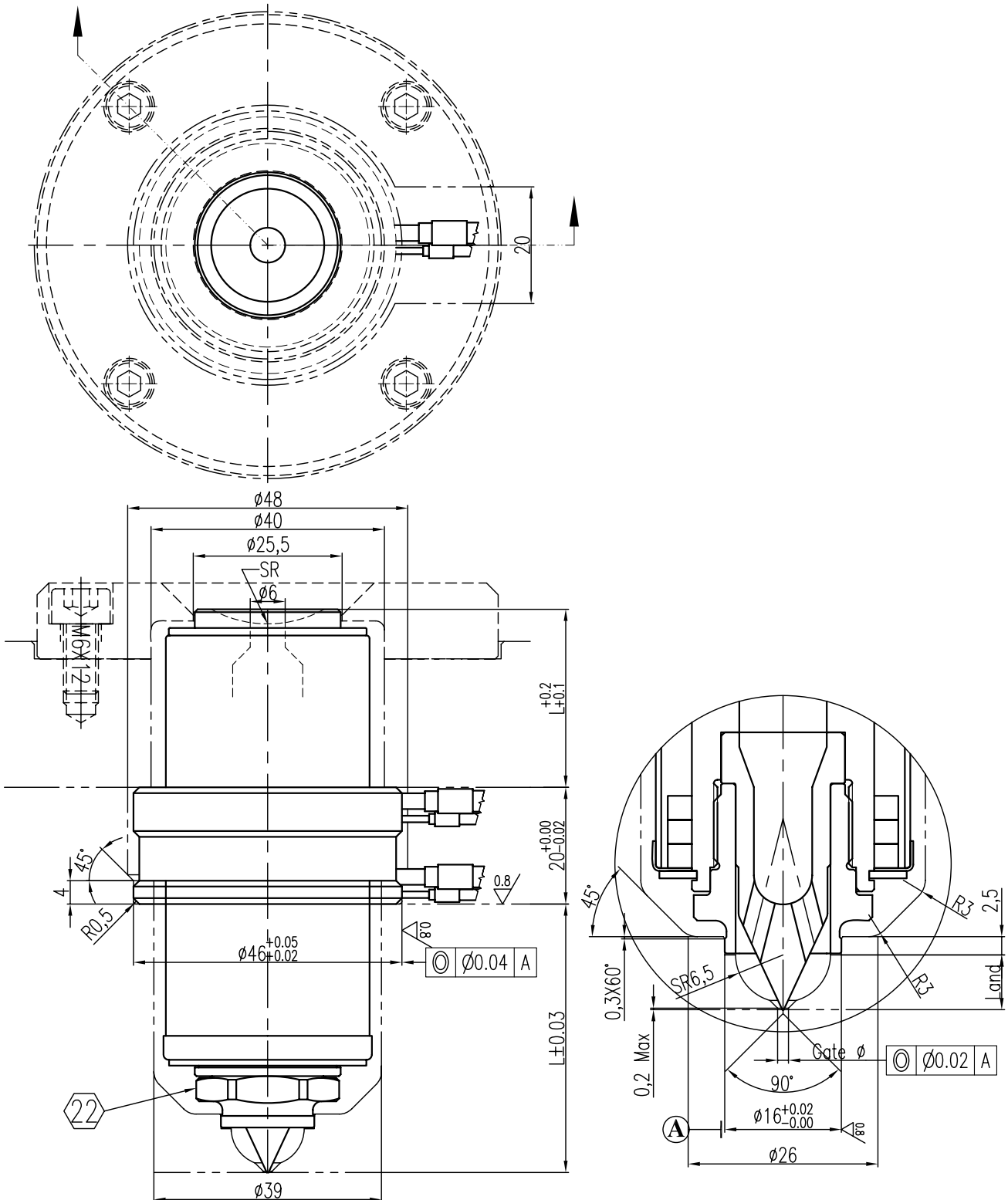
L	L1	Gate Ø	Land	SR
50 - 350	20 - 80	1,2 - 2,5	7,5	13, 16, 20



EX

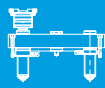
C-type torpedo (CT)

- designed for high processing temperature materials
- suited for amorphous and semi-crystalline materials
- suited for color change



Related to the scope of size (when out of range, special design needed)

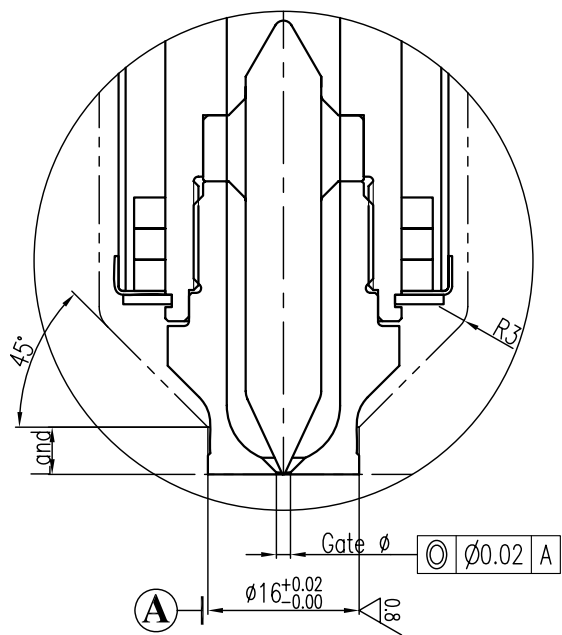
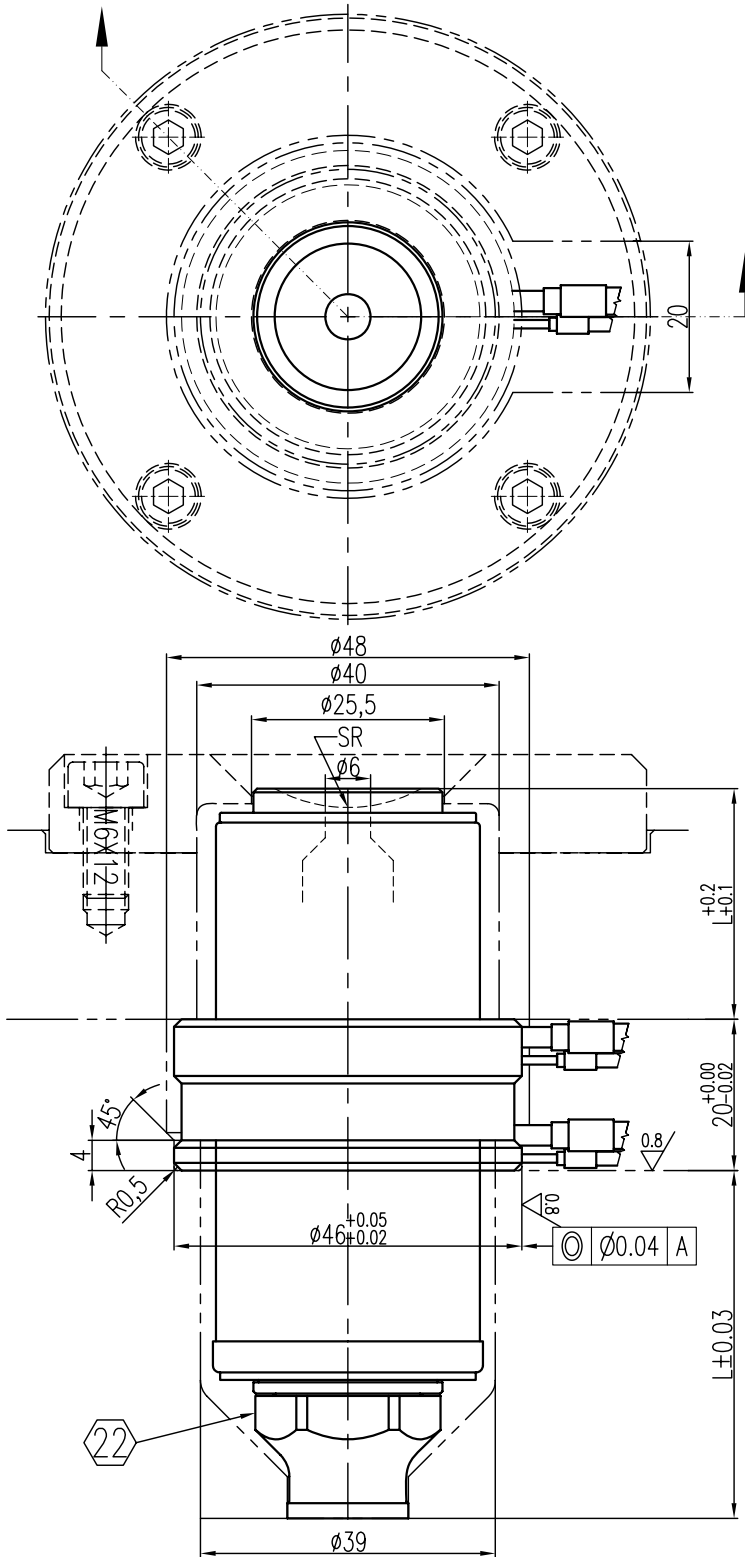
L	L1	Gate ϕ	Land	SR
50 - 350	20 - 80	1,2 - 2,5	7,7	13, 16, 20



EX

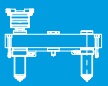
C-type torpedo with bushing (CTB)

- designed for high processing temperature materials
- suited for crystalline materials
- simplifies mold manufacturing
- suited for color change



Related to the scope of size (when out of range, special design needed)

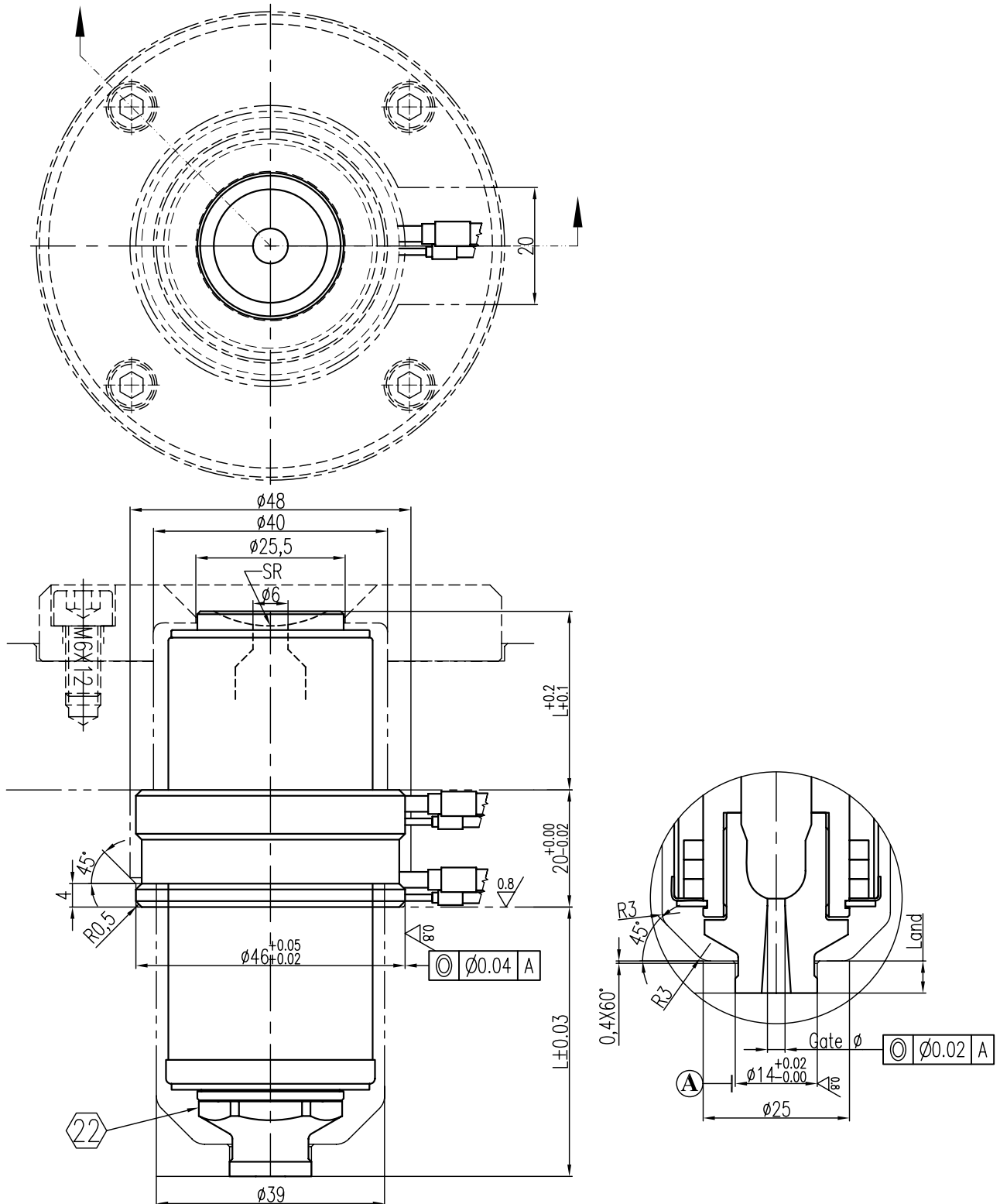
L	L1	Gate Ø	Land	SR
50 - 350	20 - 80	1,2 - 2,5	5	13, 16, 20



Hot Sprue (HS)

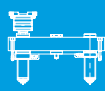
EX

- designed for high processing temperature or fast crystallization materials
- suited for all materials
- gating into the sub runners
- nozzle profile adjustments by the moldmaker required



Related to the scope of size (when out of range, special design needed)

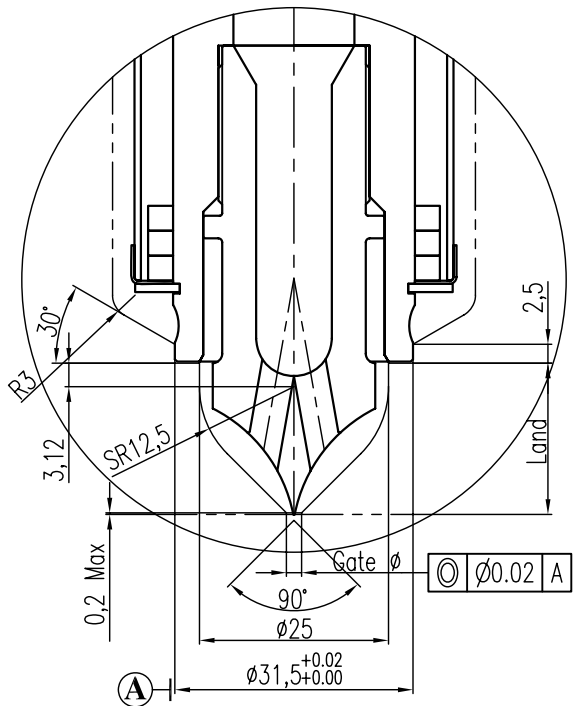
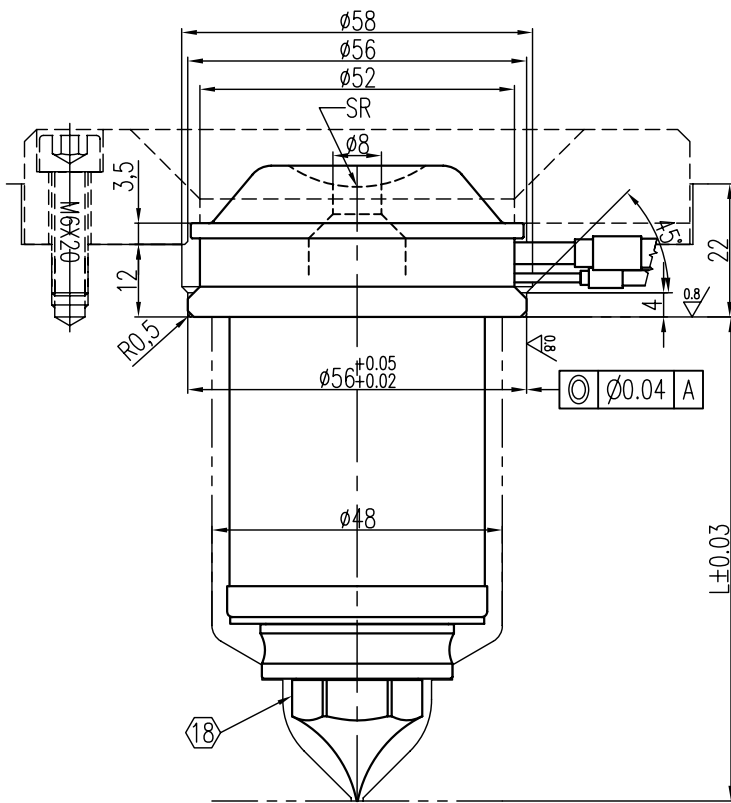
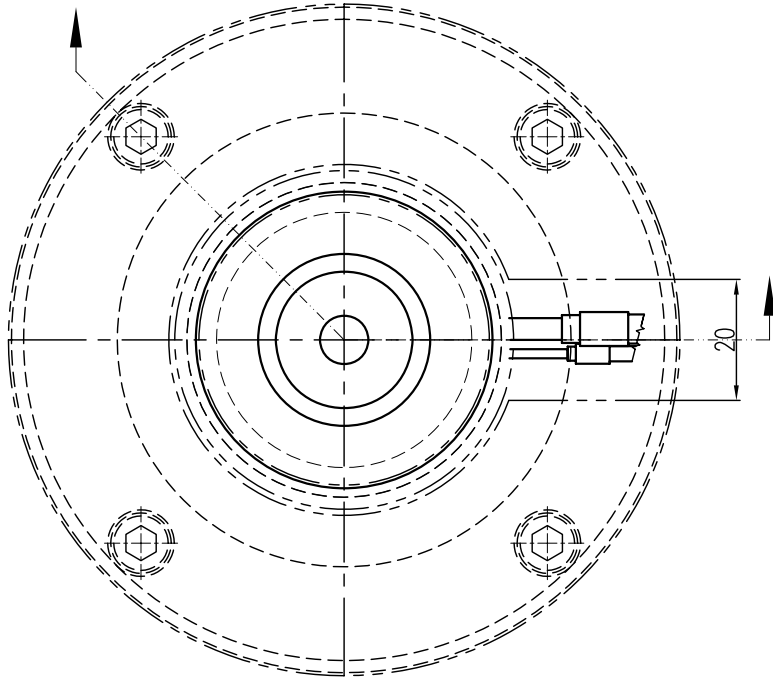
L	L1	Gate \varnothing	Land	SR
50 - 350	20 - 80	1,5 - 3,5	5	13, 16, 20



SX

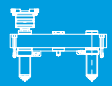
E-Type torpedo (ET)

- suited for amorphous and semi-crystalline materials
- not suited for color change



Related to the scope of size (when out of range, special design needed)

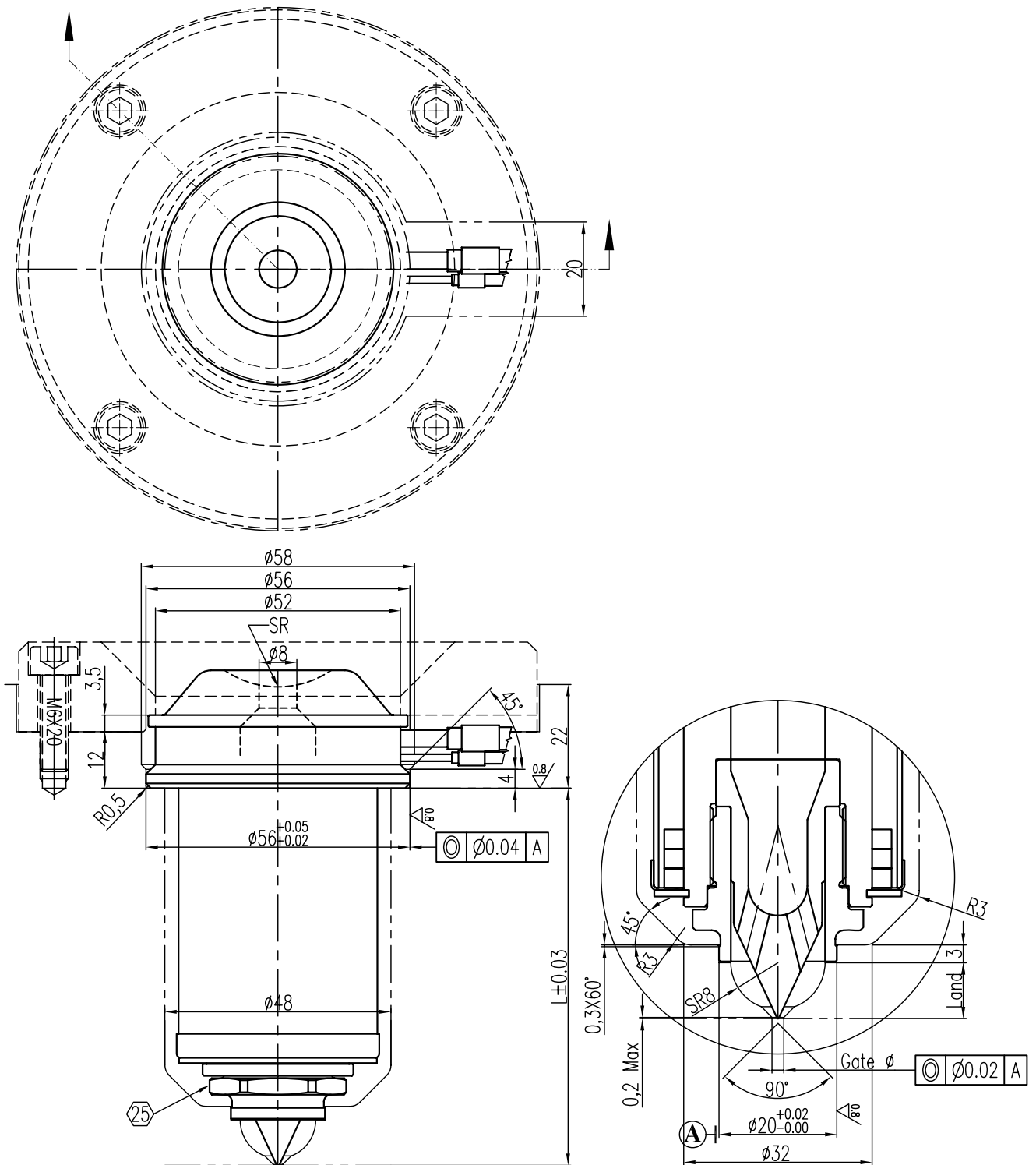
L	Gate Ø	Land	SR
60 - 500	1,5 - 2,5	20	13, 16, 20



S-Type torpedo (ST)

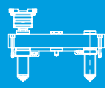
SX

- suited for amorphous and semi-crystalline materials
- not suited for color change



Related to the scope of size (when out of range, special design needed)

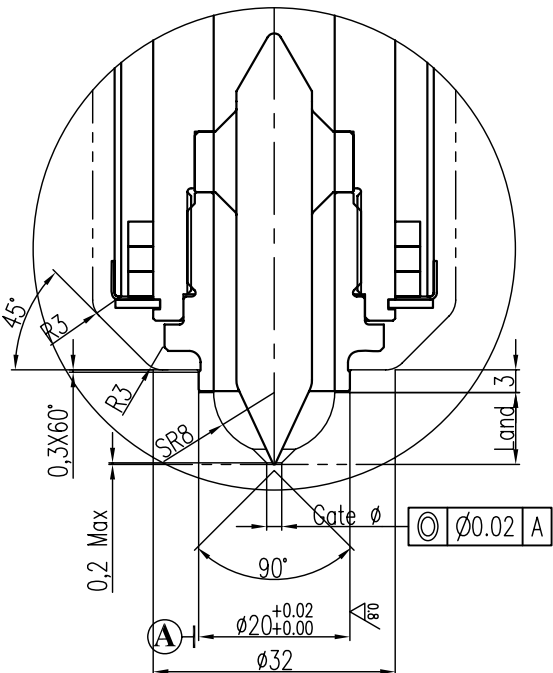
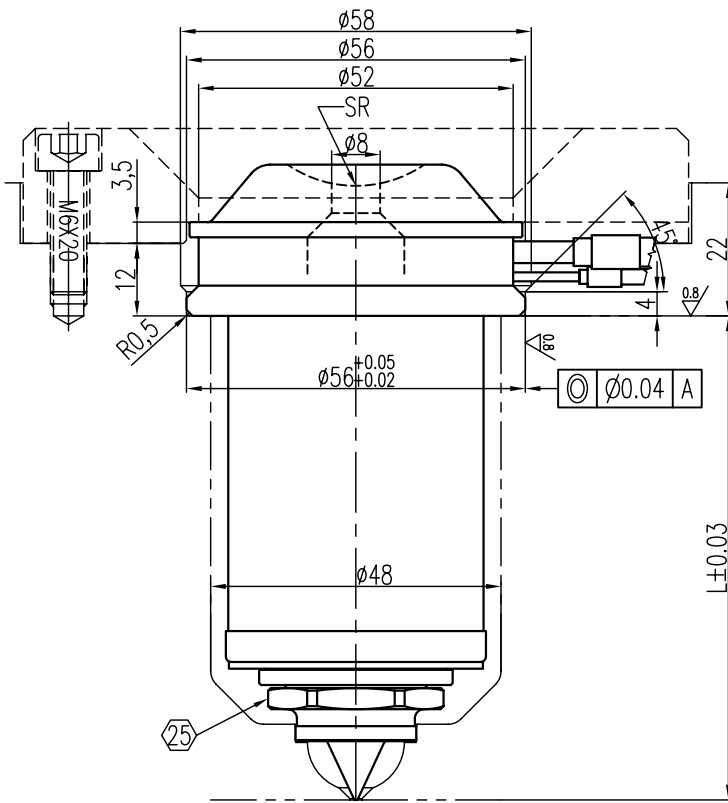
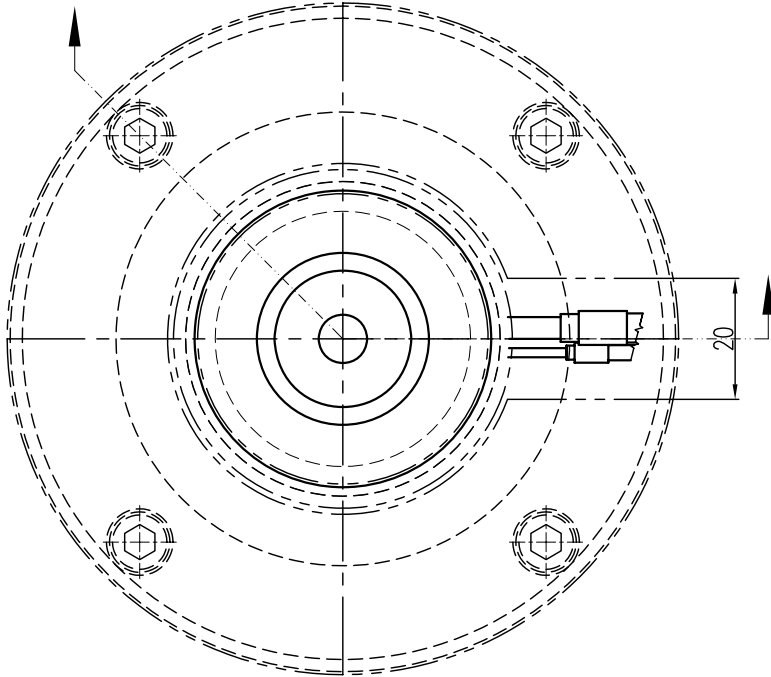
L	Gate \varnothing	Land	SR
50 - 500	1,5 - 2,5	9,5	13, 16, 20



SX

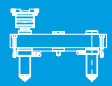
C-Type torpedo (CT)

- suited for amorphous and semi-crystalline materials
- suited for color change



Related to the scope of size (when out of range, special design needed)

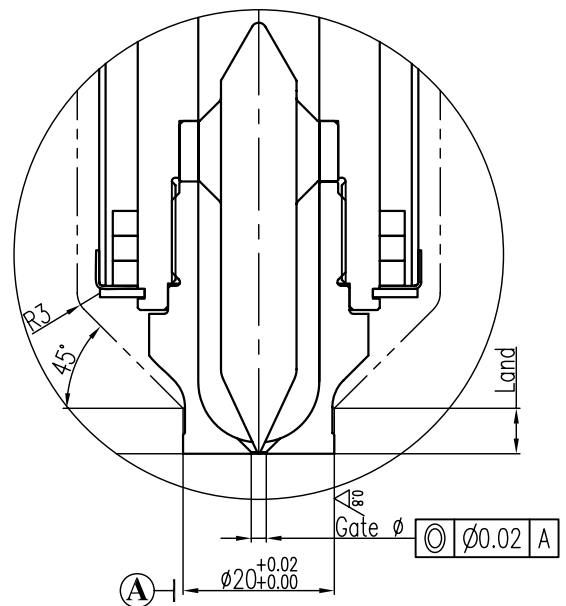
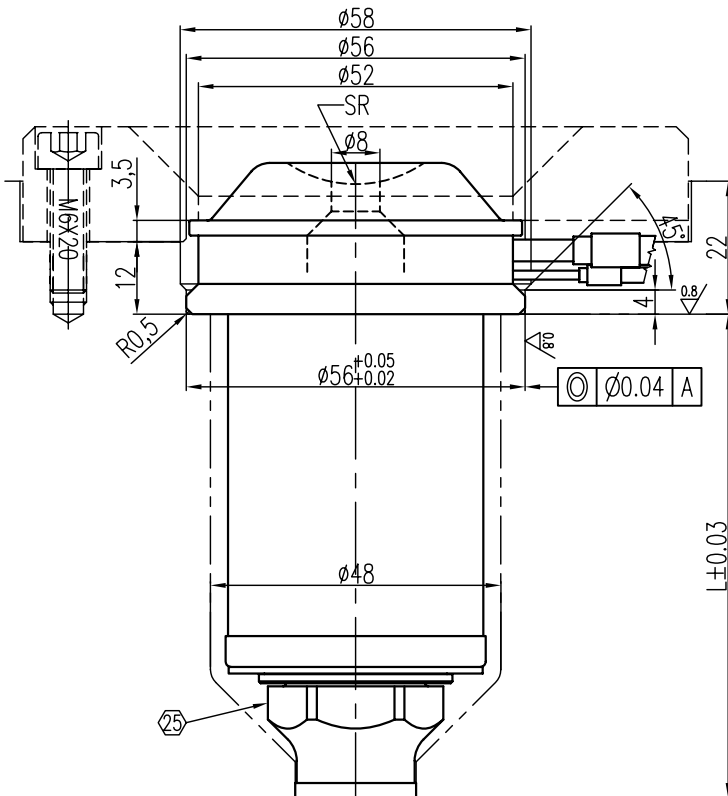
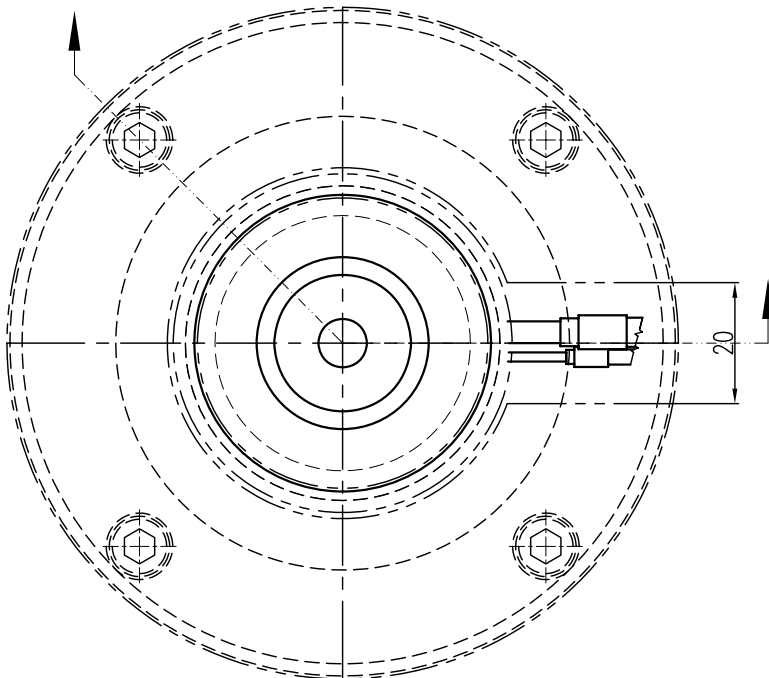
L	SR	Gate Ø	Land
50 - 500	13, 16, 20	1,5 - 2,5	9,5



SX

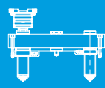
C-type torpedo with bushing (CTB)

- suited for crystalline materials
- simplifies mold manufacturing
- suited for color change



Related to the scope of size (when out of range, special design needed)

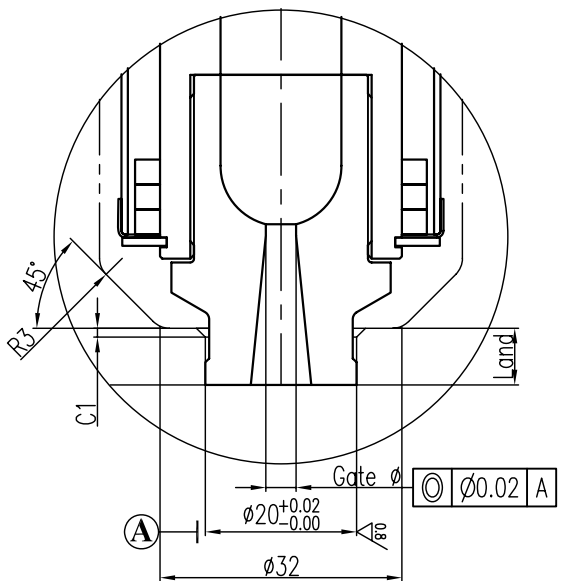
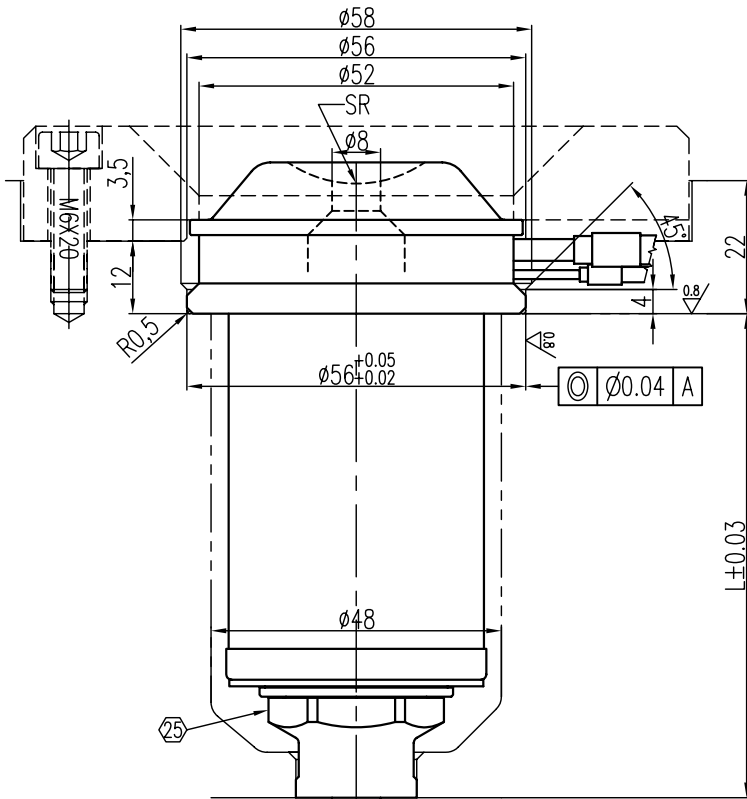
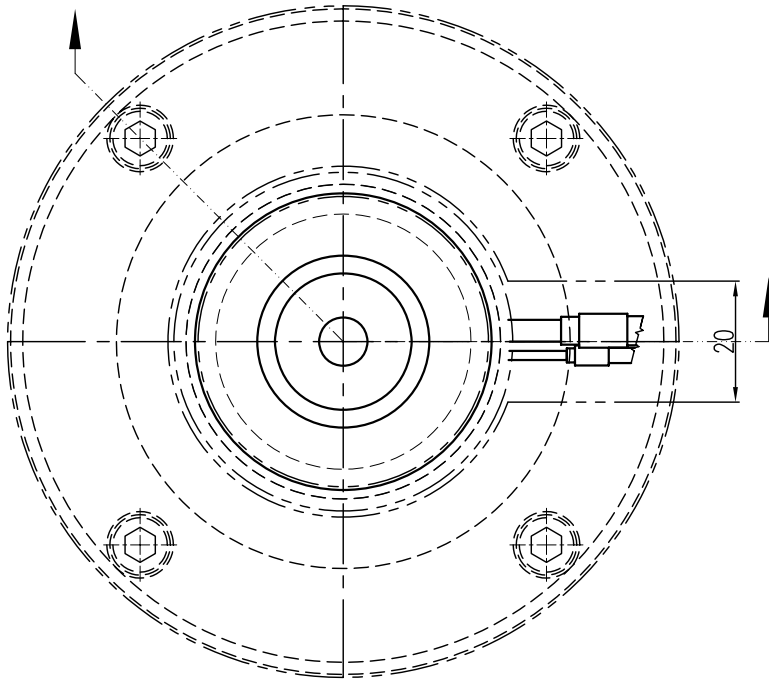
L	SR	Gate Ø	Land
50 - 500	13, 16, 20	1,5 - 2,5	6



SX

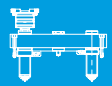
Hot Sprue (HS)

- suited for all materials
- gating into the sub runners
- nozzle profile adjustments by the moldmaker required



Related to the scope of size (when out of range, special design needed)

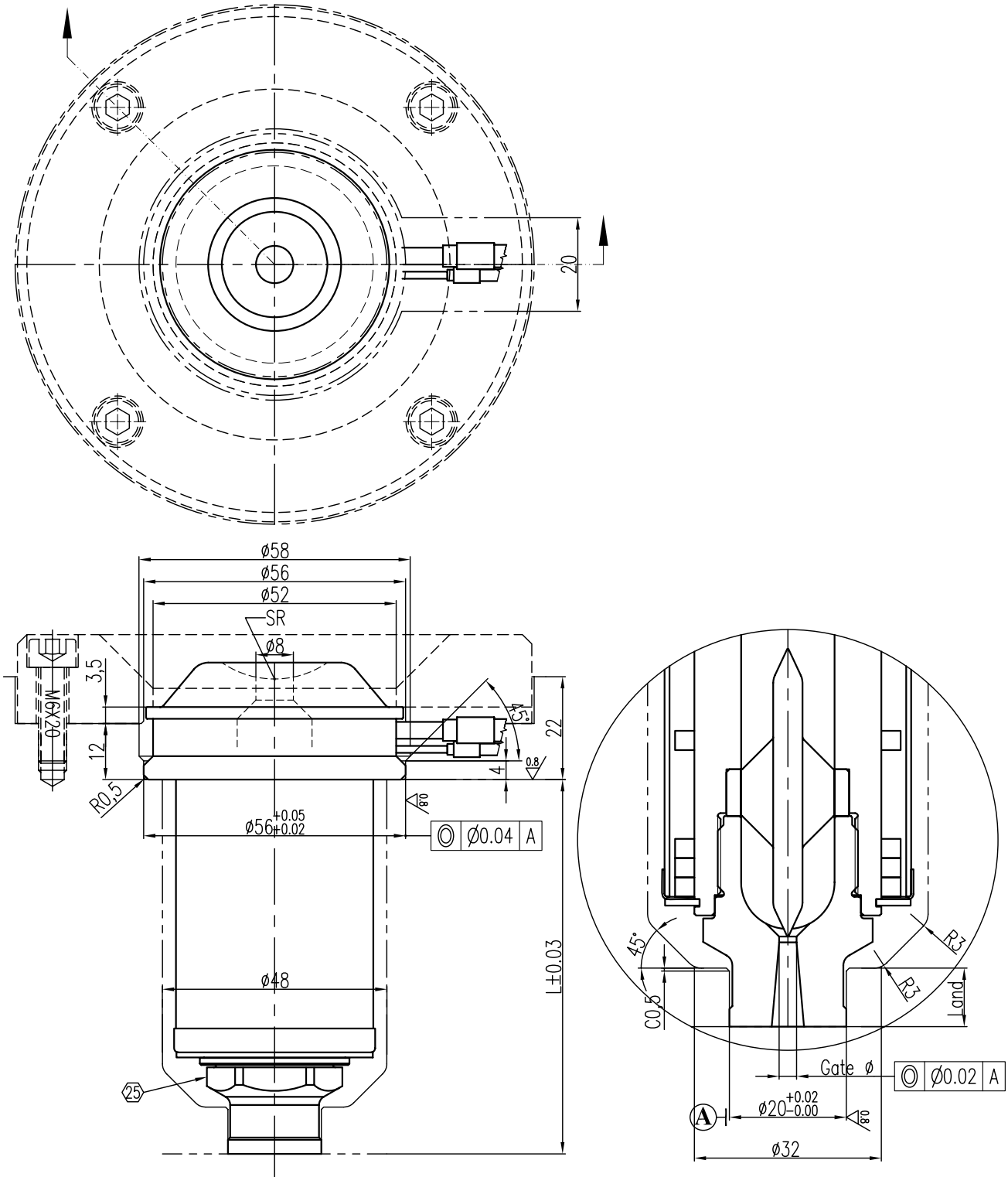
L	SR	Gate ϕ	Land
50 - 500	13, 16, 20	1,5 - 5,0	7,5



Torpedo Bushing (TB)

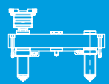
SX

- designed for high processing temperature engineering materials
- gating into the sub runners
- nozzle profile adjustments by the moldmaker required



Related to the scope of size (when out of range, special design needed)

L	SR	Gate ϕ	Land
50 - 500	13, 16, 20	2,0 - 5,0	10,0

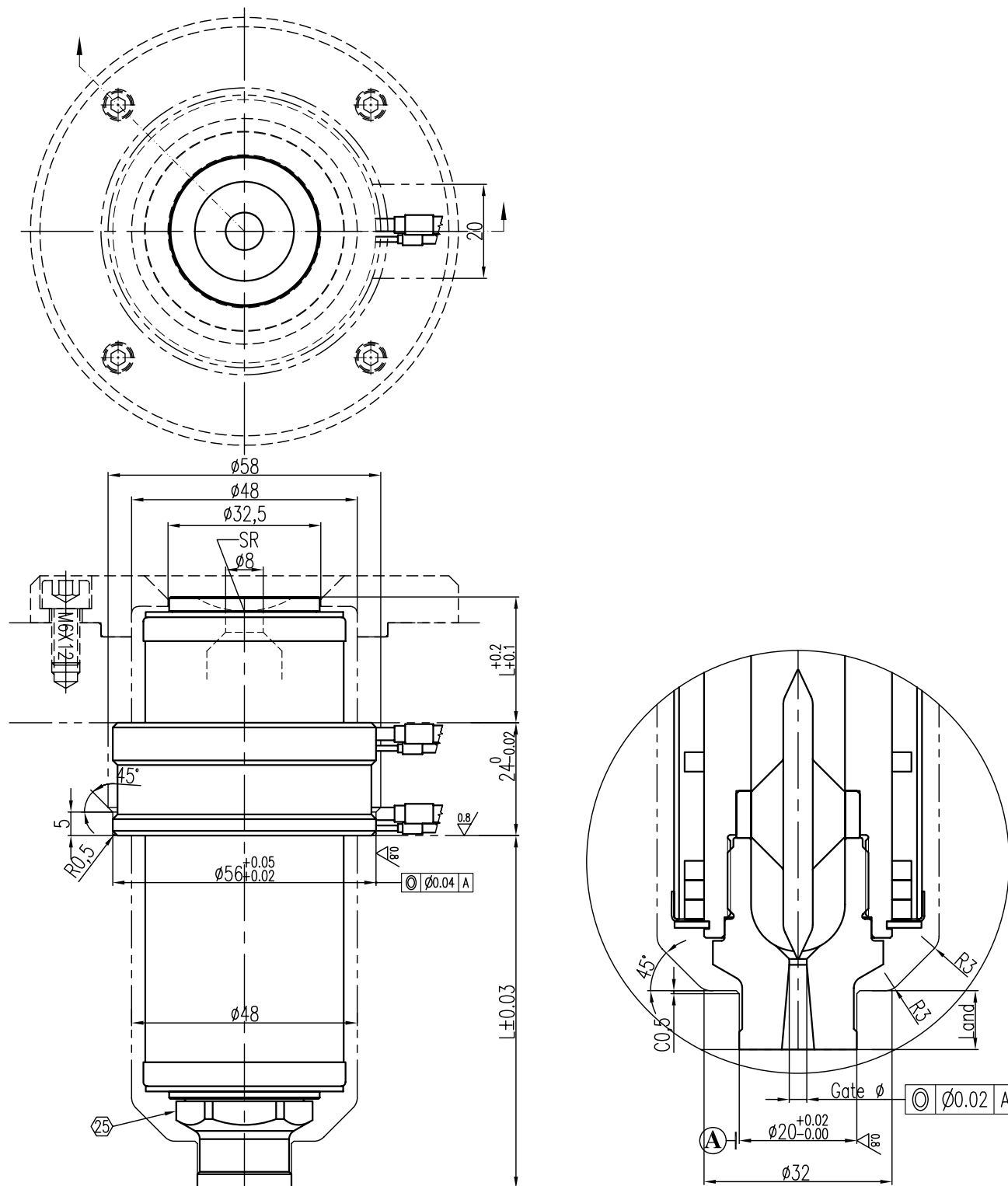


EX

Torpedo Bushing (TB)

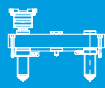


- designed for high processing temperature engineering materials
- gating into the sub runners
- nozzle profile adjustments by the moldmaker required



Related to the scope of size (when out of range, special design needed)

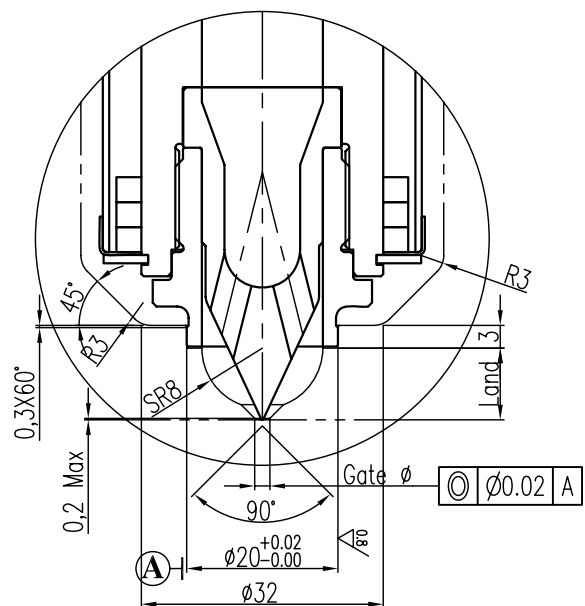
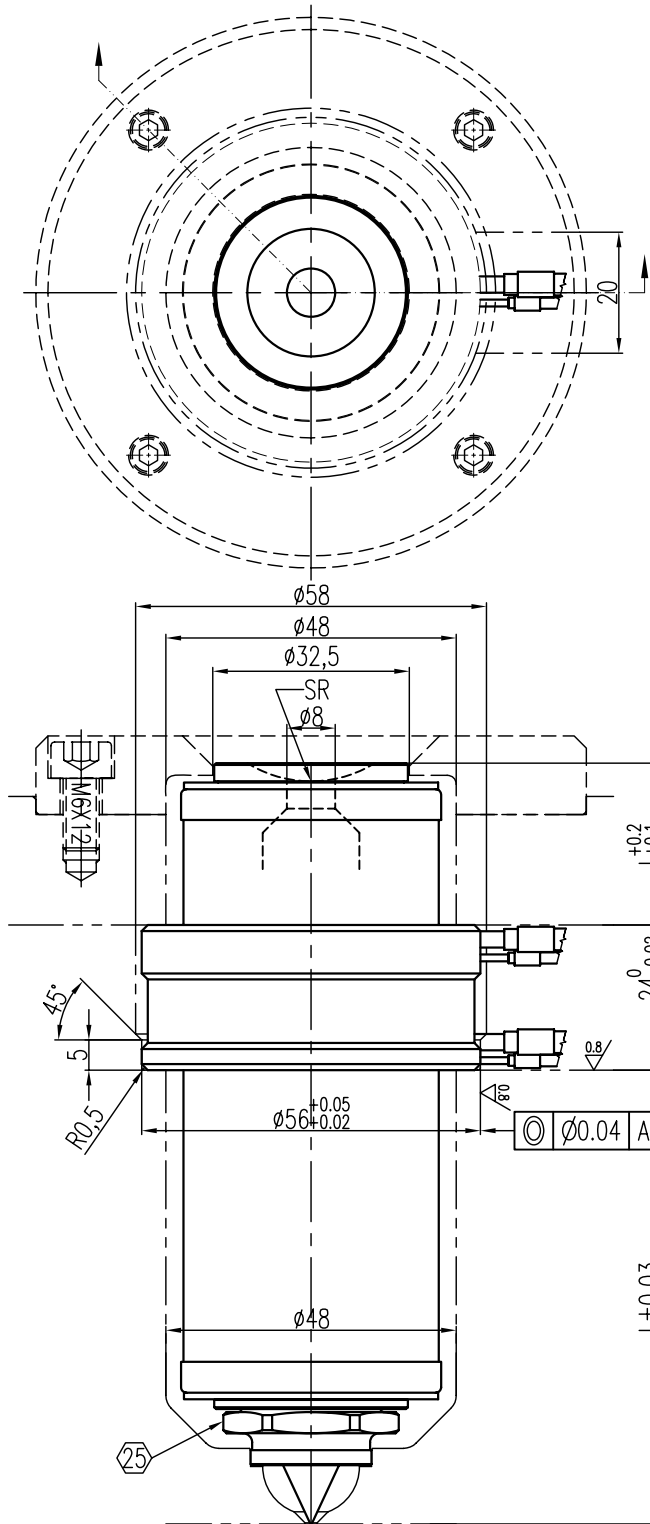
L	L1	SR	Gate \varnothing	Land
50 - 500	20 - 100	13, 16, 20	2,0 - 5,0	10,0



EX

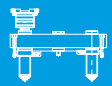
S-type torpedo (ST)

- designed for high processing temperature materials
- suited for amorphous and semi-crystalline materials
- not suited for color change



Related to the scope of size (when out of range, special design needed)

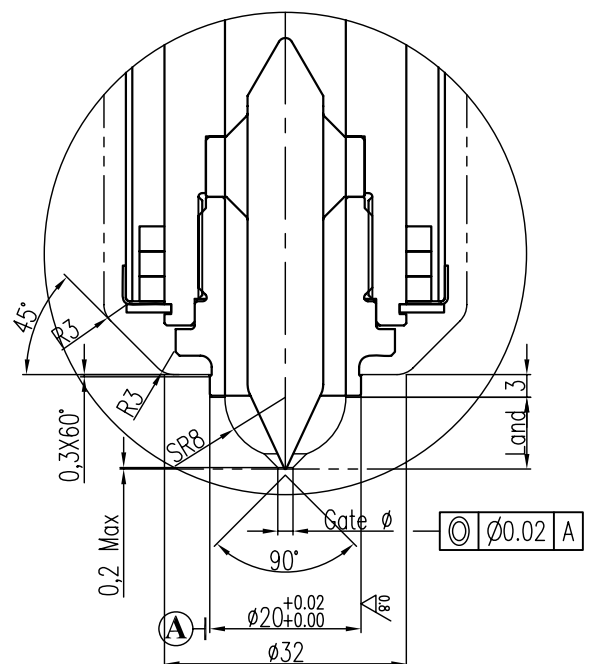
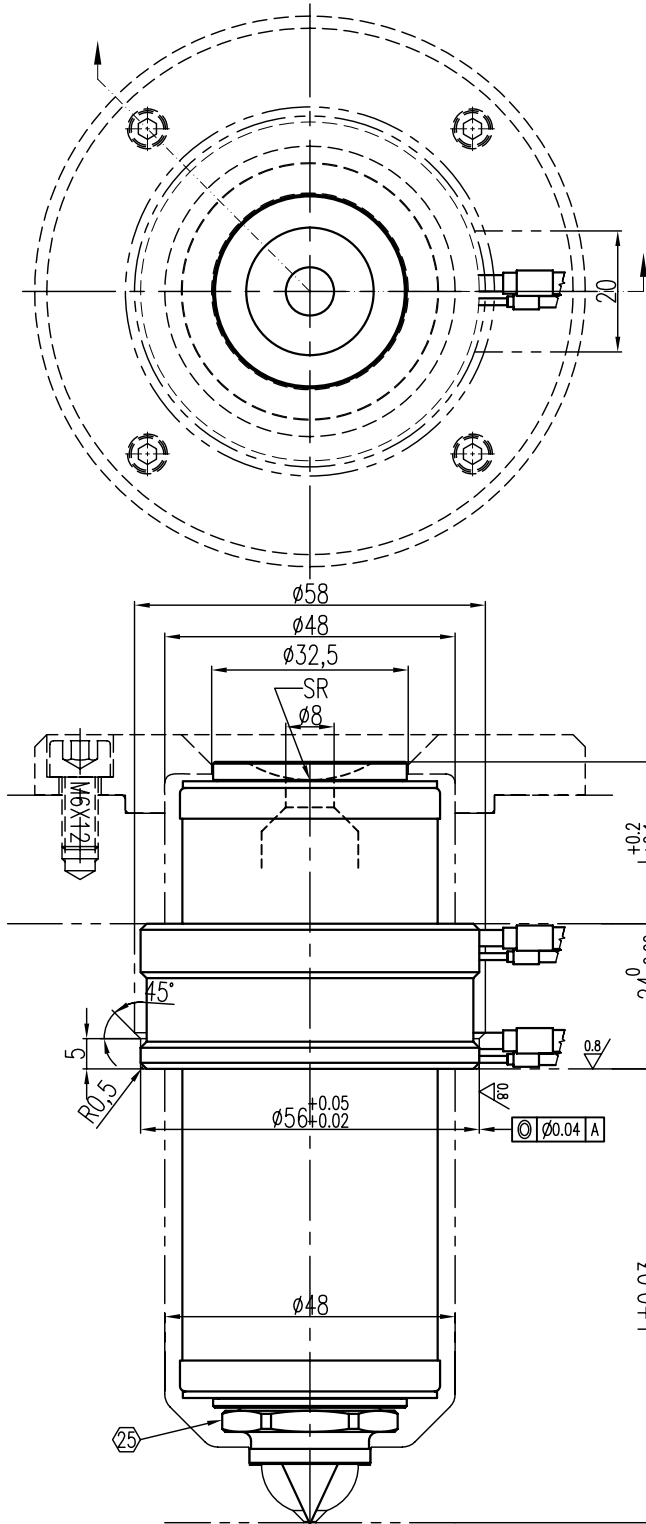
L	L1	Gate Ø	Land	SR
50 - 500	20 - 100	1,5 - 2,5	9,5	13, 16, 20



EX

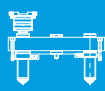
C-type torpedo (CT)

- designed for high processing temperature materials
- suited for amorphous and semi-crystalline materials
- suited for color change



Related to the scope of size (when out of range, special design needed)

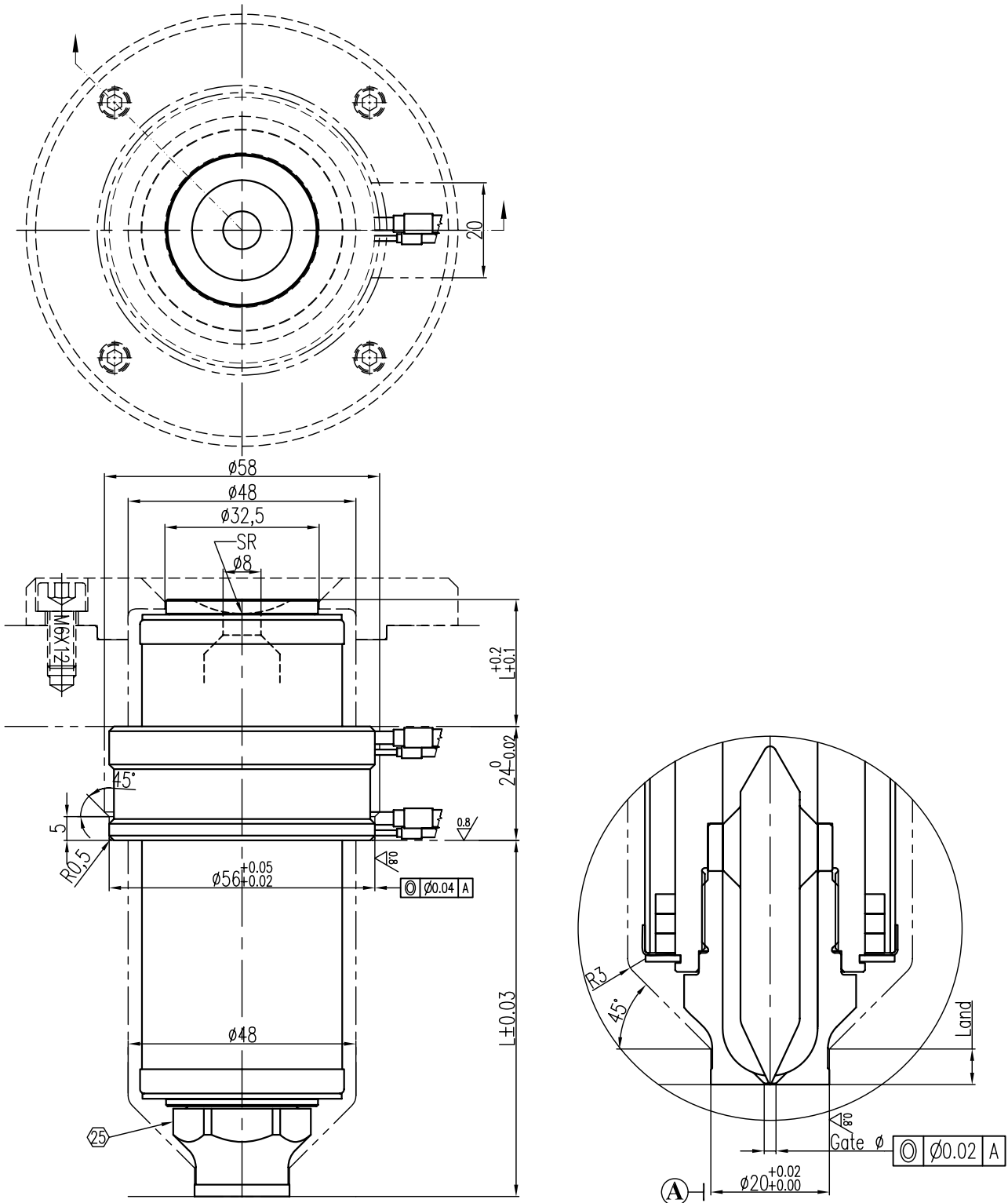
L	L1	Gate ϕ	Land	SR
50 - 500	20 - 100	1,5 - 2,5	9,5	13, 16, 20



EX

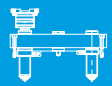
C-type torpedo with bushing (CTB)

- designed for high processing temperature materials
- suited for crystalline materials
- simplifies mold manufacturing
- suited for color change



Related to the scope of size (when out of range, special design needed)

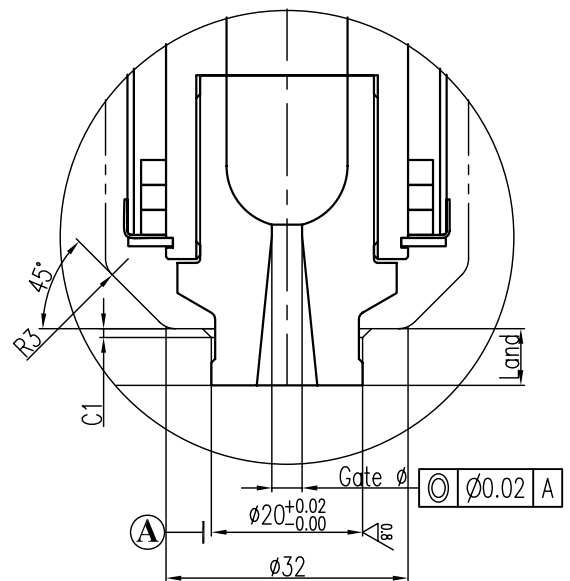
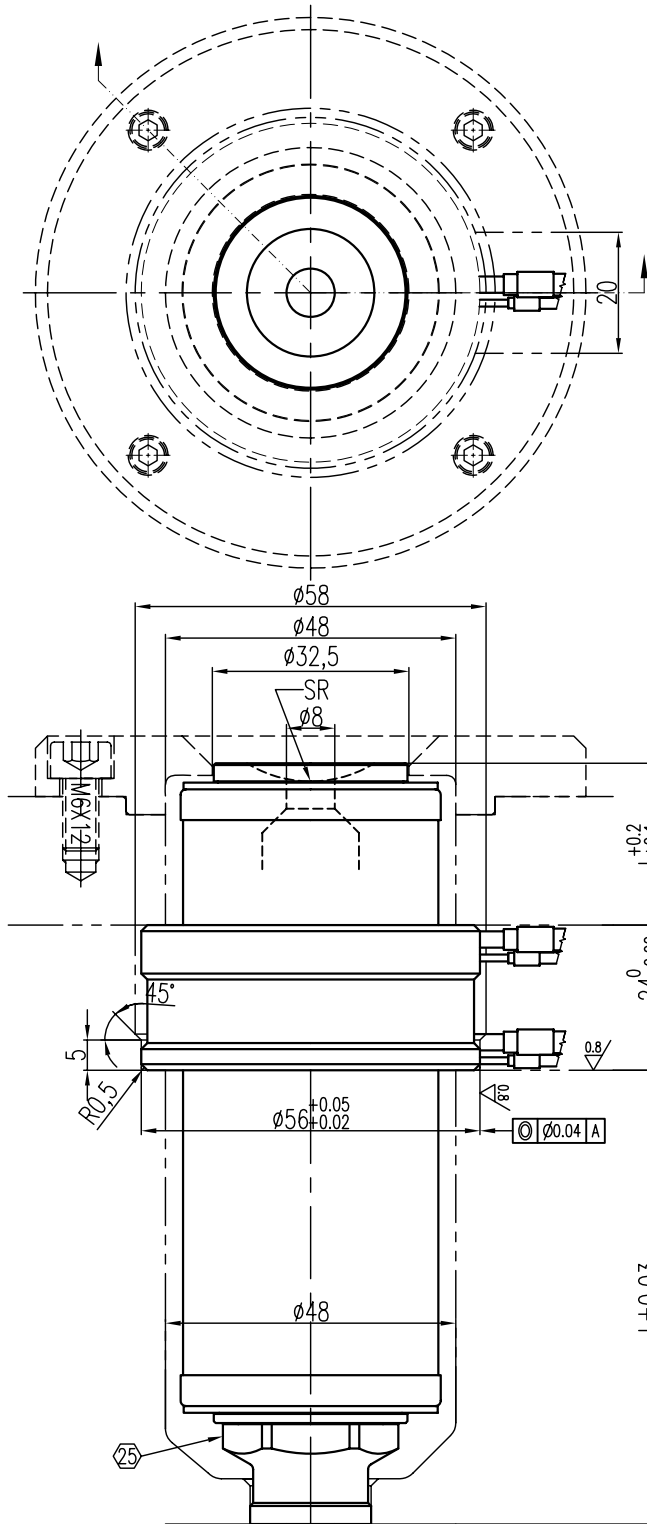
L	L1	Gate Ø	Land	SR
50 - 500	20 - 100	1,5 - 2,5	6	13, 16, 20



Hot Sprue (HS)

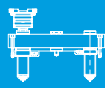
EX

- designed for high processing temperature or fast crystallization materials
- suited for all materials
- gating into the sub runners
- nozzle profile adjustments by the moldmaker required



Related to the scope of size (when out of range, special design needed)

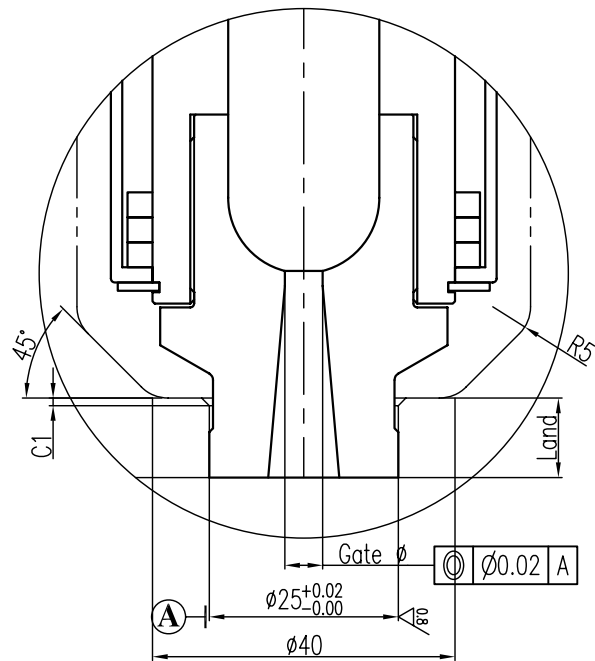
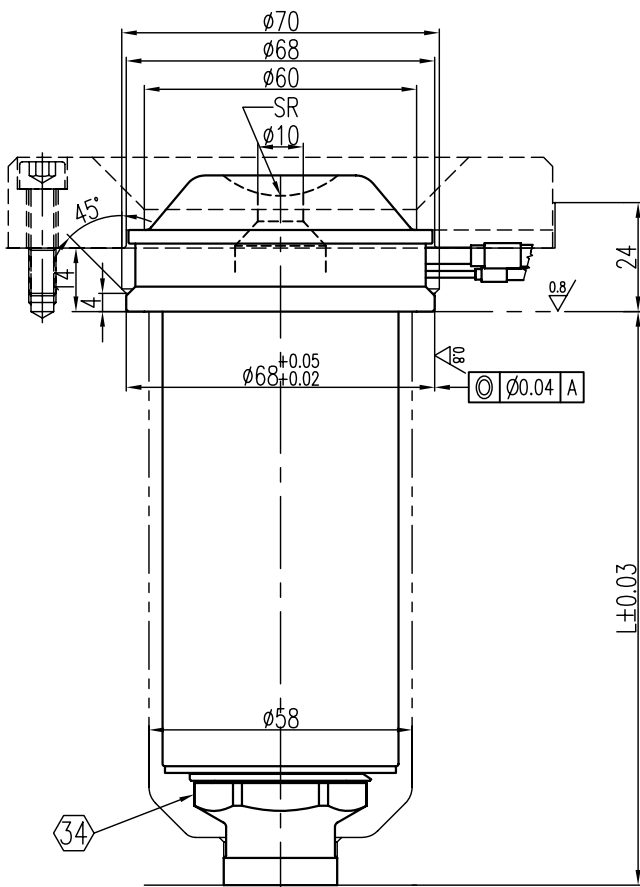
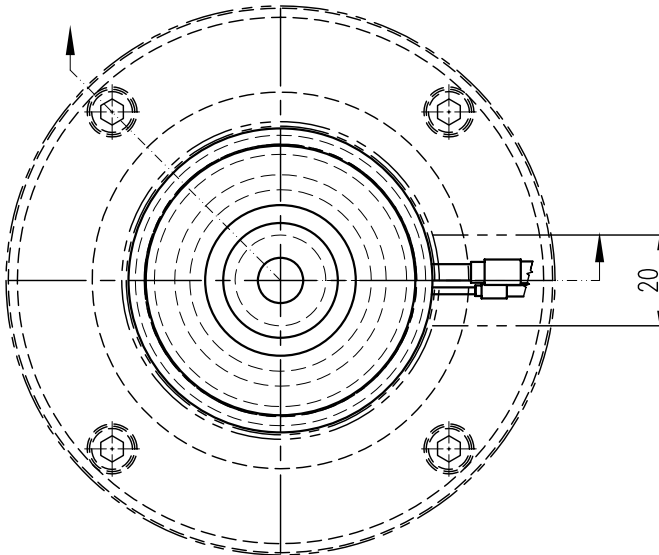
L	L1	Gate ϕ	Land	SR
50 - 500	20 - 100	1,5 - 5	7,5	13, 16, 20



SX

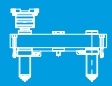
Hot Sprue (HS)

- suited for all materials
- gating into the sub runners
- nozzle profile adjustments by the moldmaker required



Related to the scope of size (when out of range, special design needed)

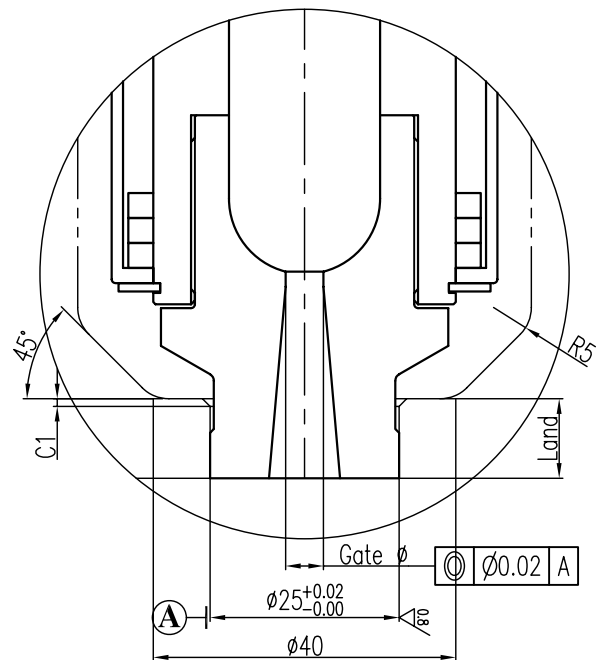
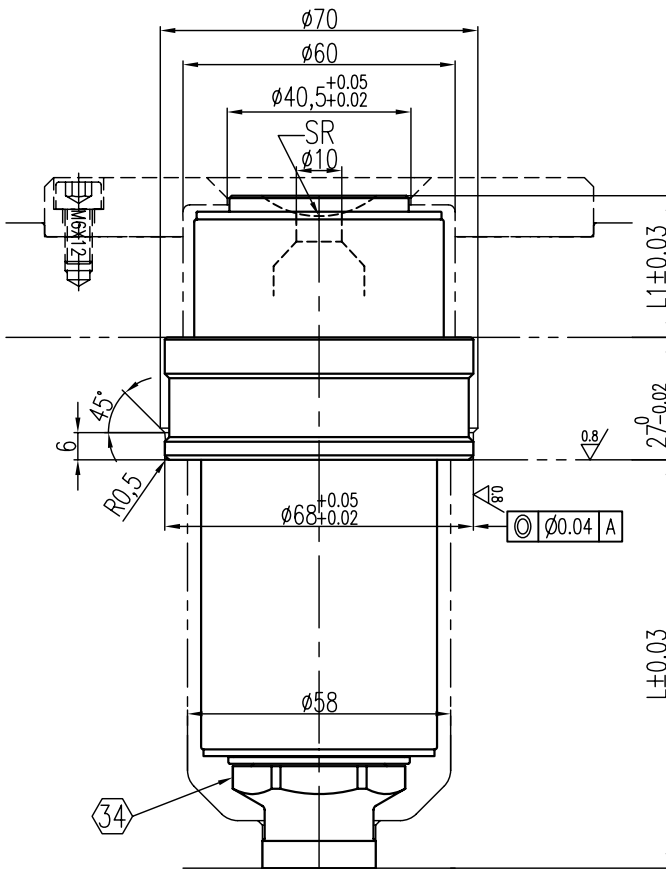
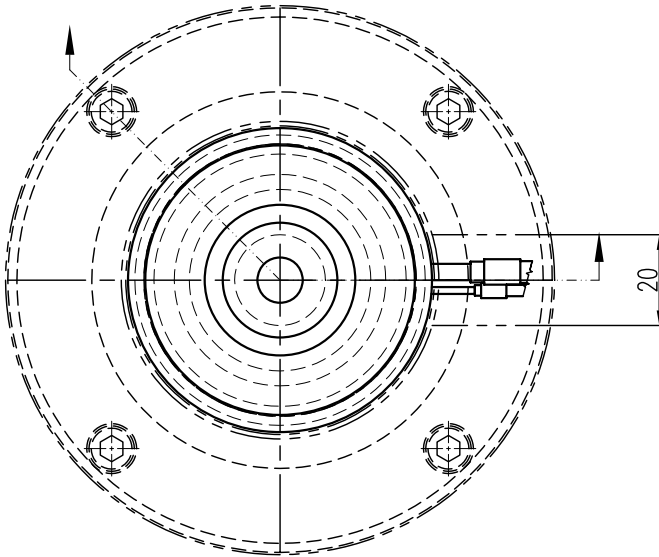
L	SR	Gate Ø	Land
60 - 600	13, 16, 20	2,0 - 6,0	10,5



Hot Sprue (HS)

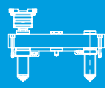
EX

- designed for high processing temperature or fast crystallization materials
- suited for all materials
- gating into the sub runners
- nozzle profile adjustments by the moldmaker required



Related to the scope of size (when out of range, special design needed)

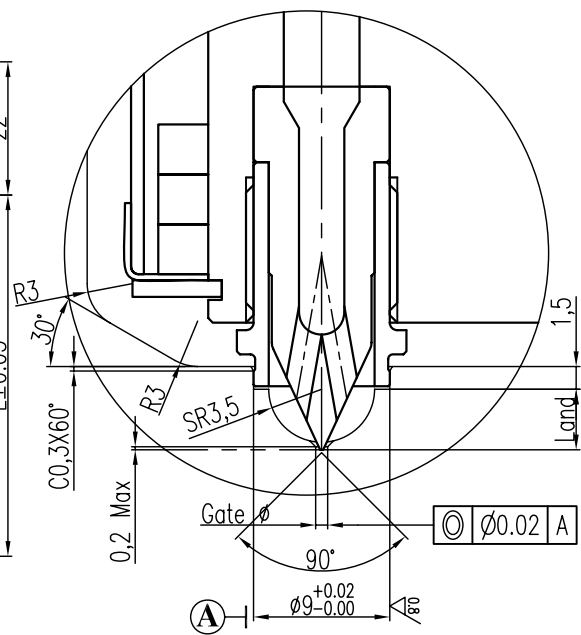
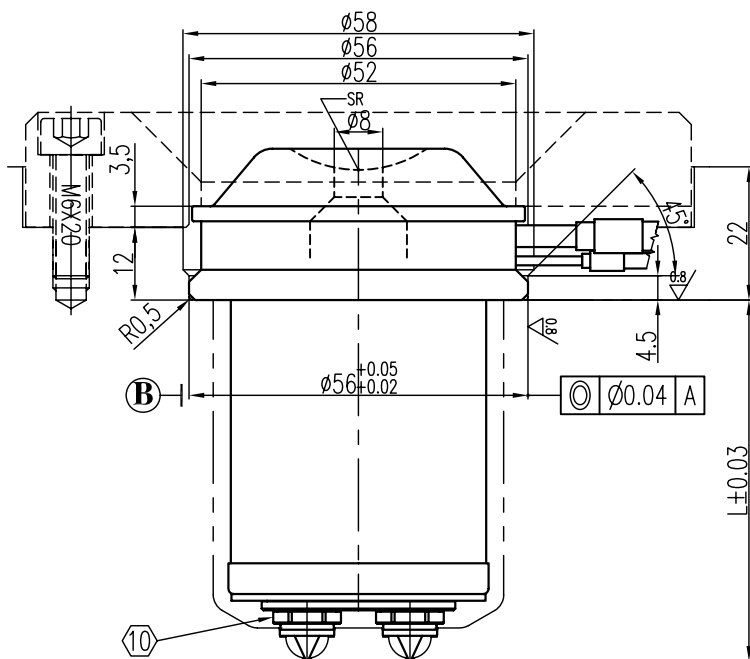
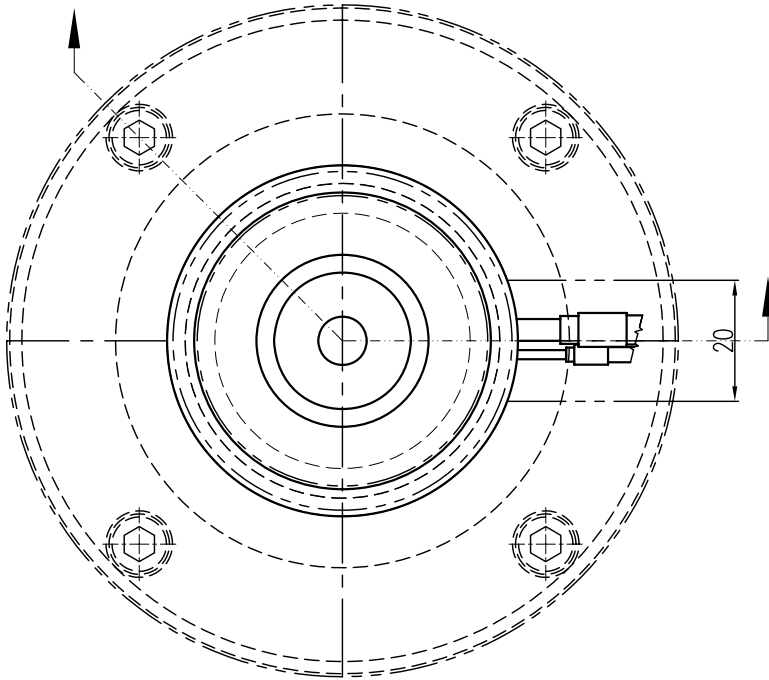
L	L1	Gate ϕ	Land	SR
60 - 600	25 - 120	2,0 - 6,0	10,5	13, 16, 20



SX

Multi Tip torpedo (MTT)

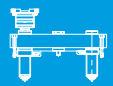
- suited for amorphous and semi-crystalline materials
- suited for color change



Bottom view: see next page

Related to the scope of size (when out of range, special design needed)

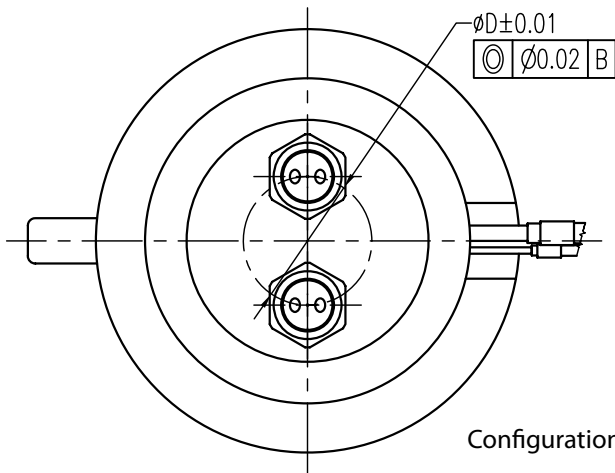
L	SR	D	Gate Ø	Land
50 - 150	13, 16, 20	15 - 17,5	0,8 - 1,5	4



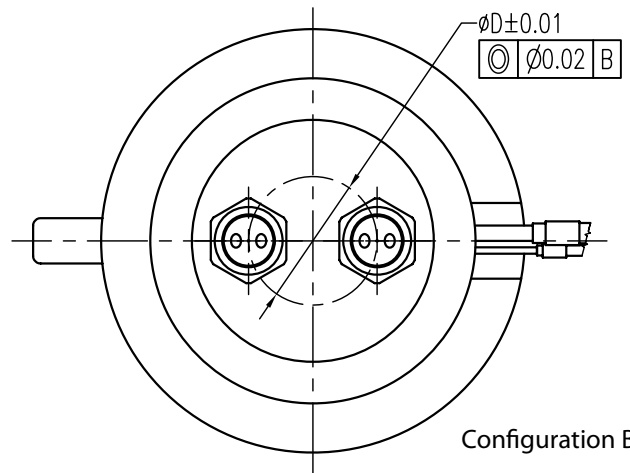
SX

Multi Tip torpedo (MTT) - bottom view

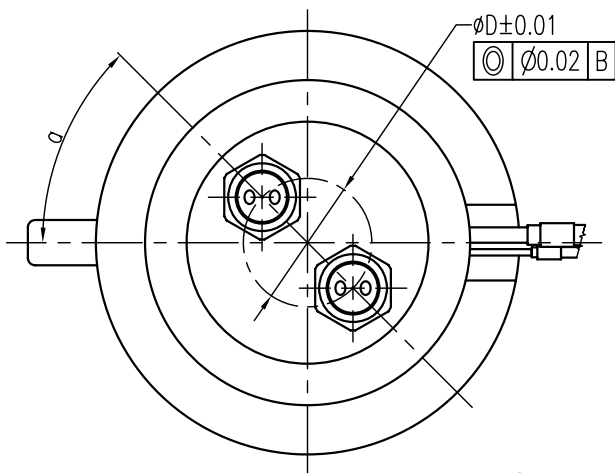
- Nozzle (dis)assembly from the cavity plate at material process temperature
- "B" see previous page



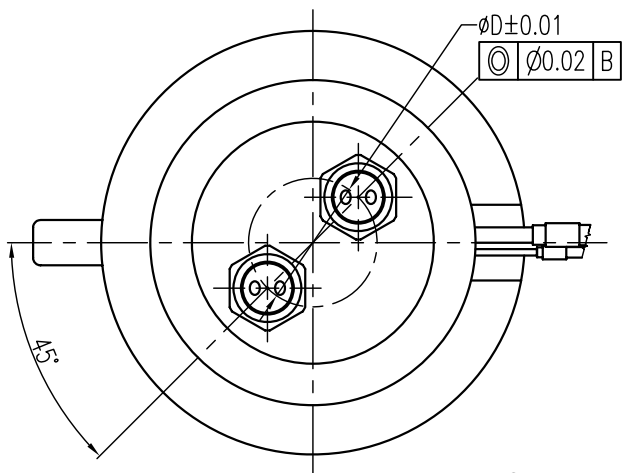
Configuration A



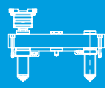
Configuration B



Configuration C



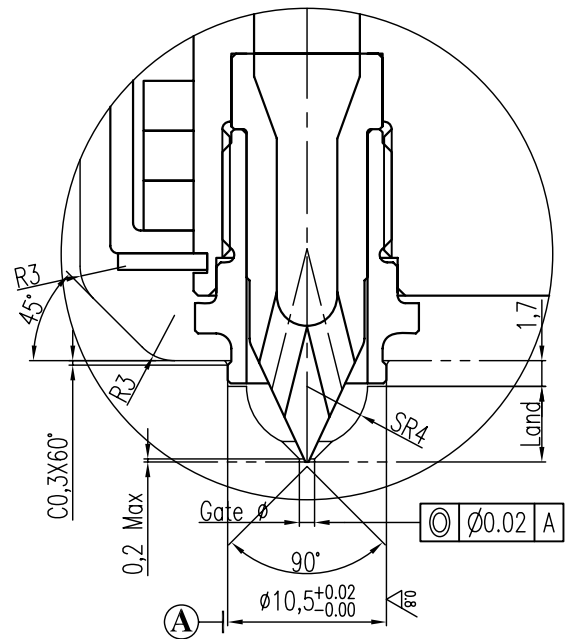
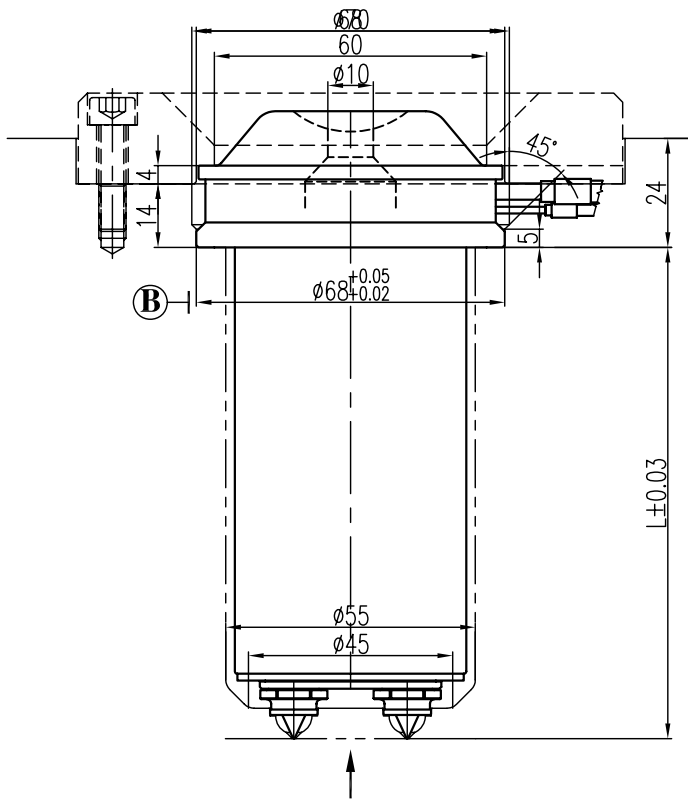
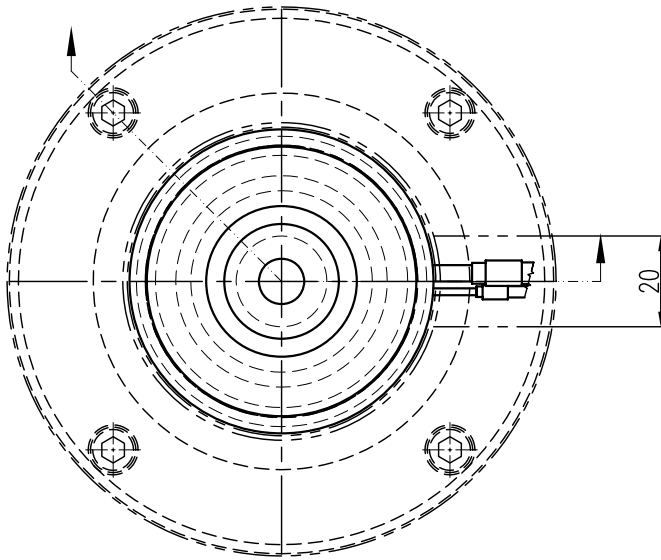
Configuration D



SX

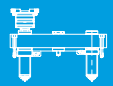
Multi Tip torpedo (MTT)

- suited for amorphous and semi-crystalline materials
- suited for color change



Bottom view: see next page

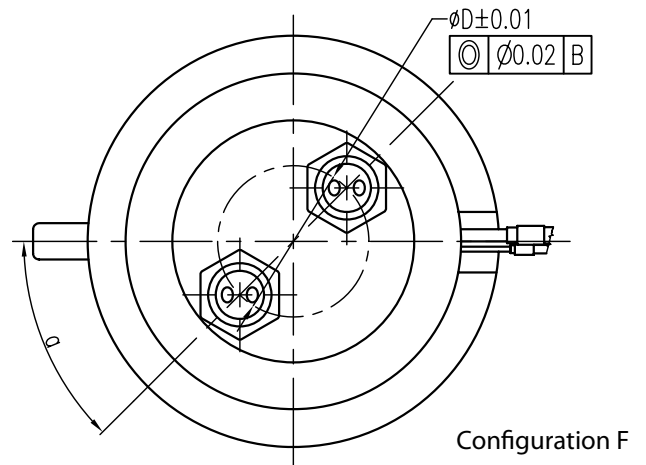
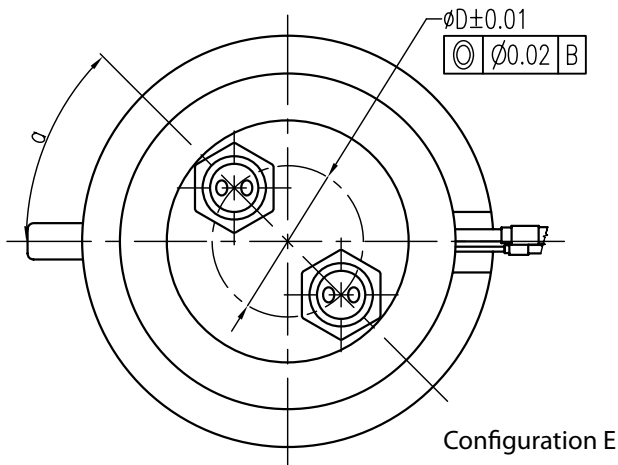
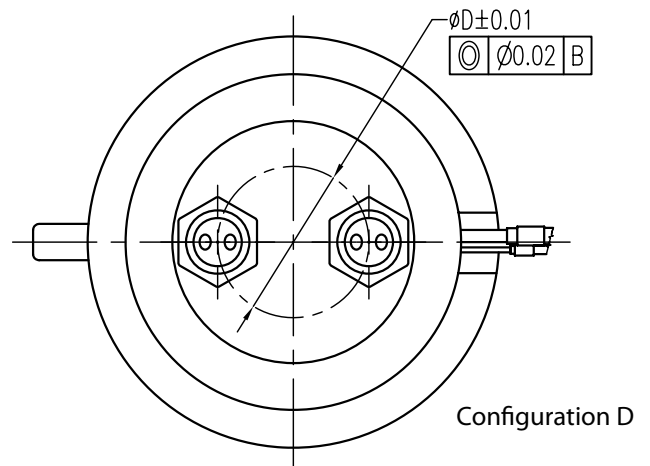
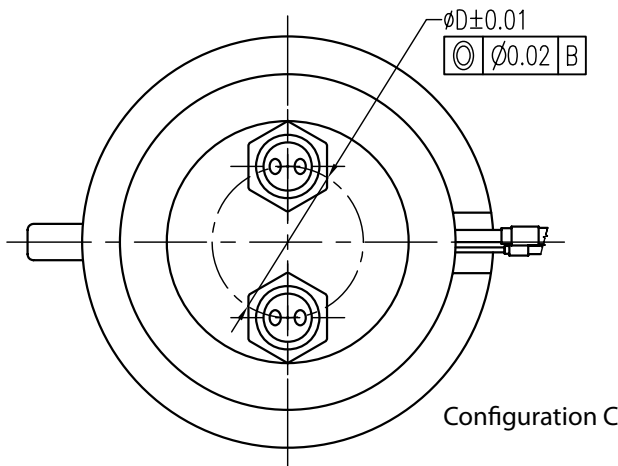
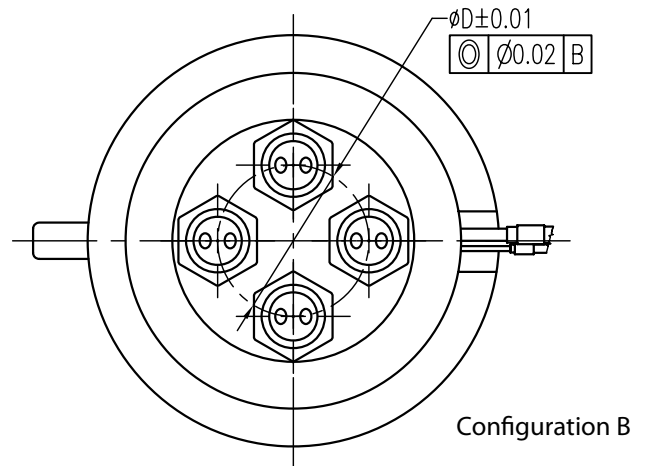
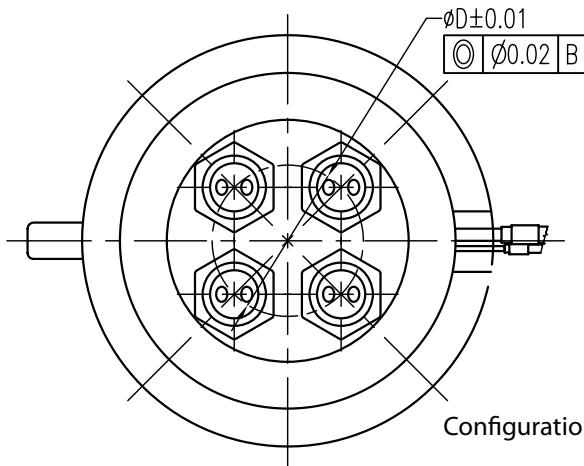
Related to the scope of size (when out of range, special design needed)				
L	SR	D	Gate Ø	Land
50 - 80	40, 50, 55	15 - 17,5	0,8 - 1,5	4

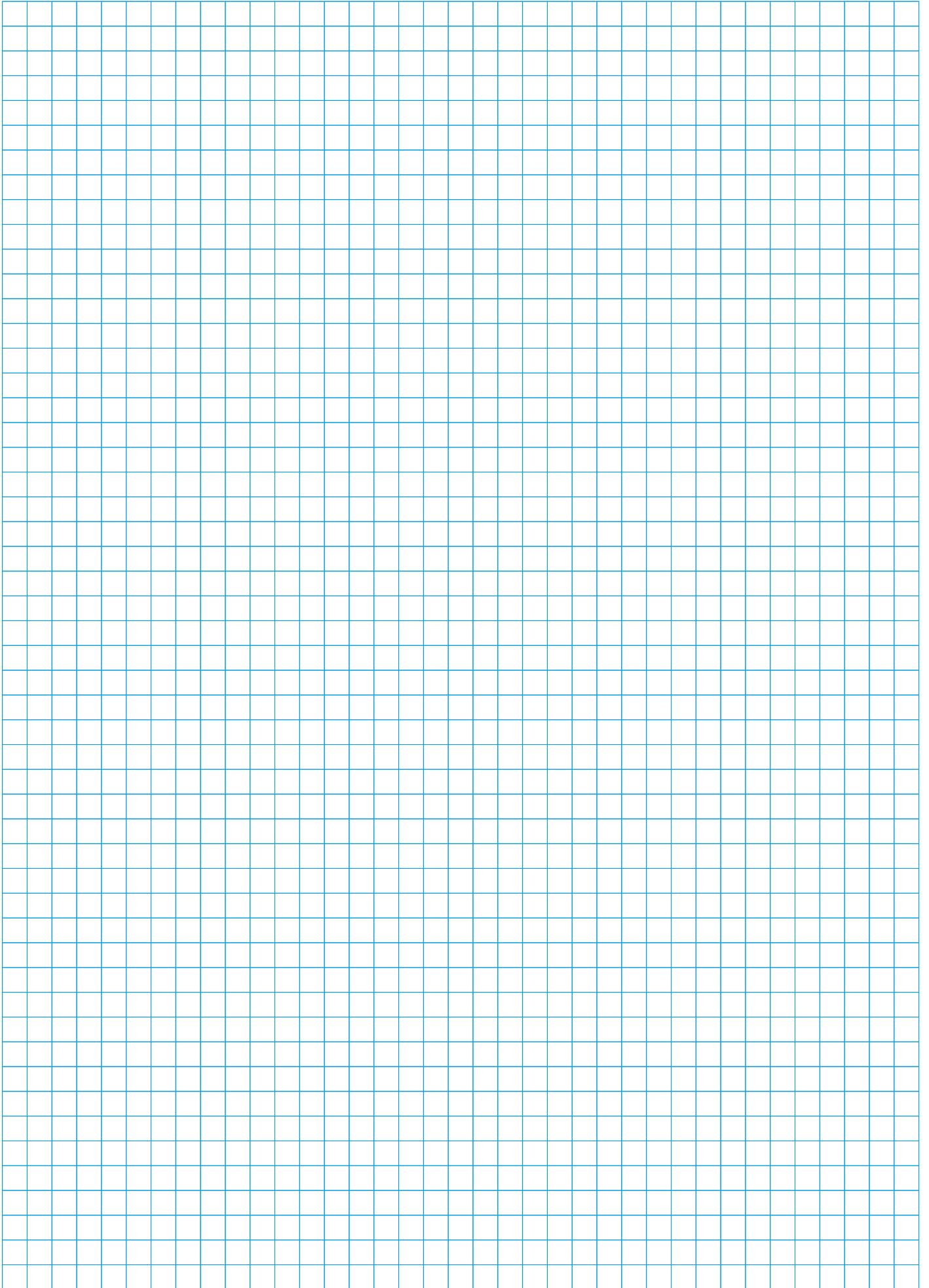


SX

Multi Tip torpedo (MTT) - bottom view

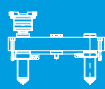
- Nozzle (dis)assembly from the cavity plate at material process temperature
- "B" see previous page







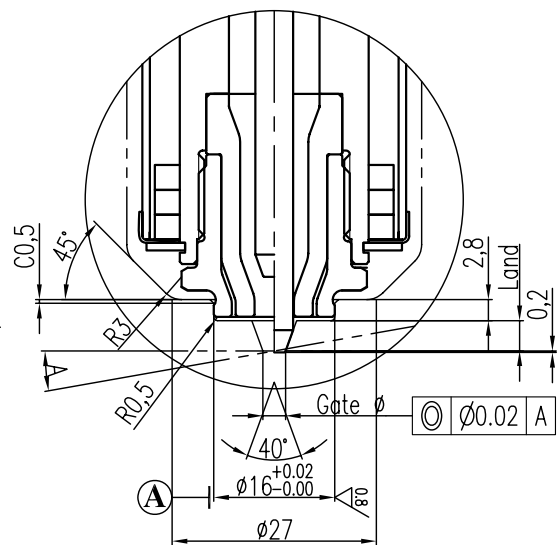
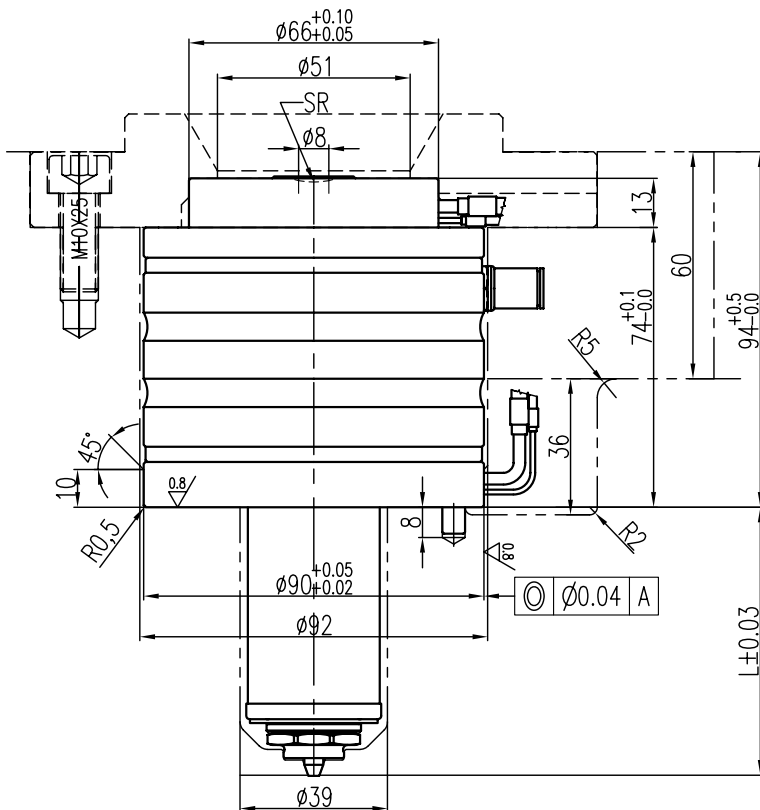
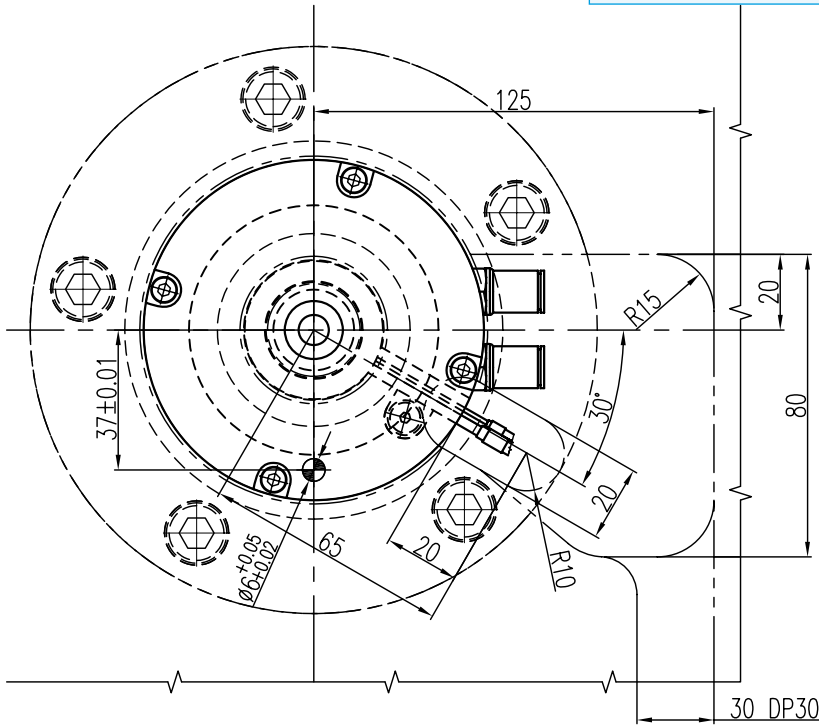
Single Valve Gate



SX

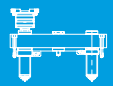
Bi-Met C-type valve (CV)

- suited for all materials
- can be used when $A < 10^\circ$



Related to the scope of size (when out of range, special design needed)

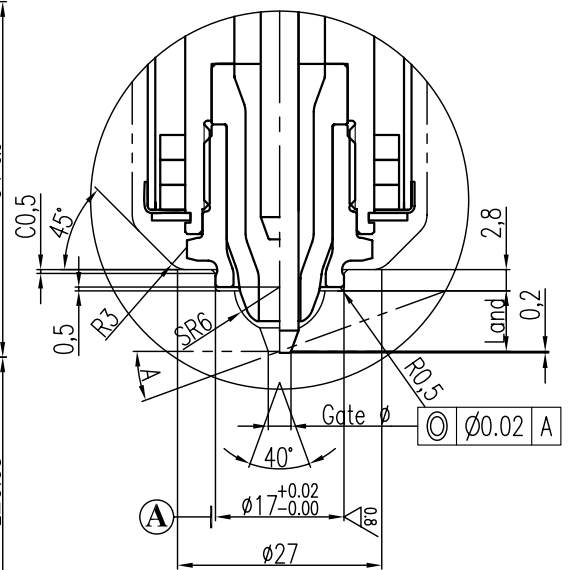
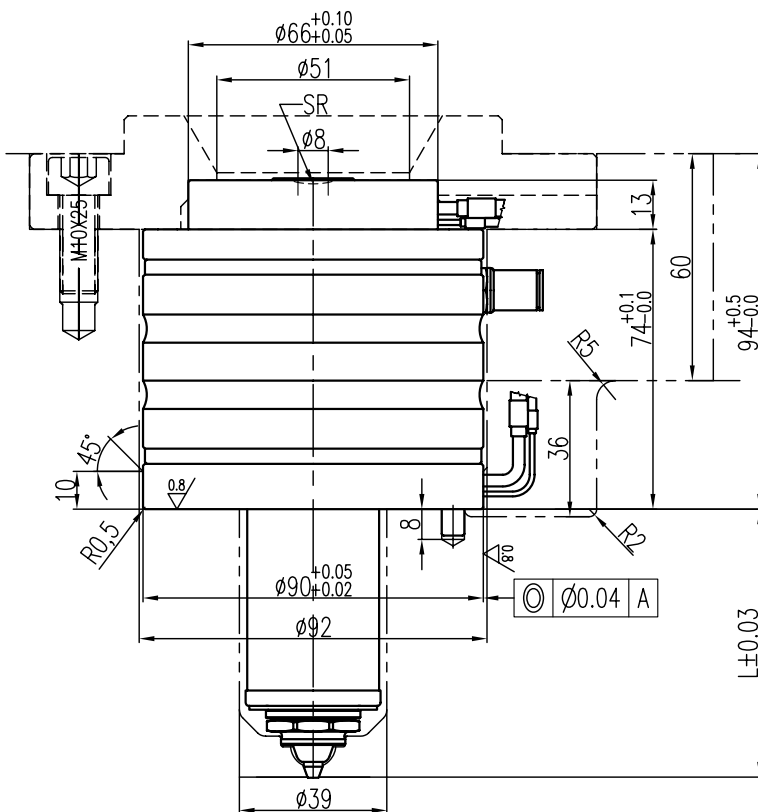
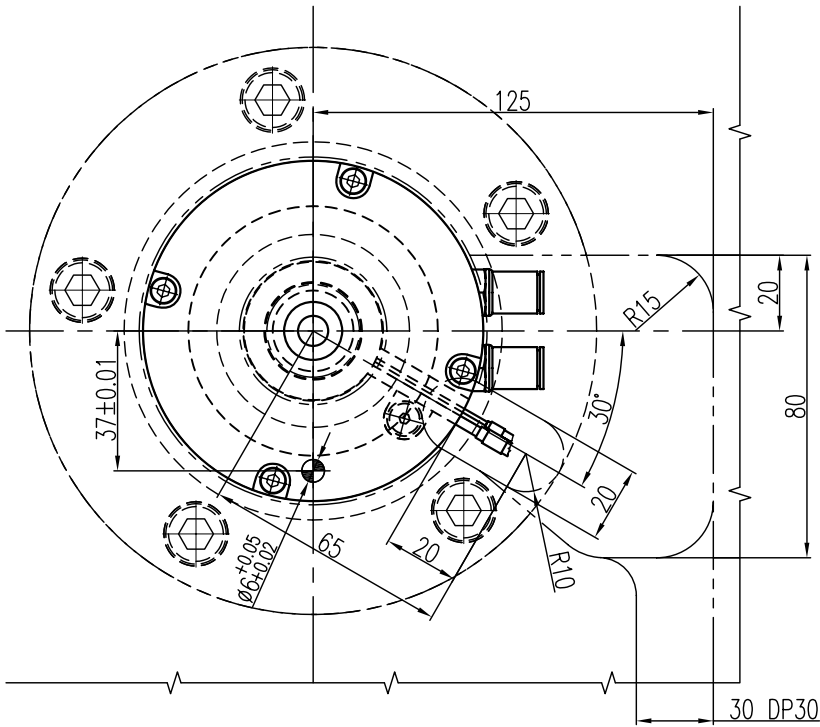
L	A	Gate Ø	Land
50 - 350	0° - 10°	2,0	4,0
		3,0	4,0



SX

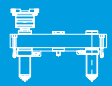
Bi-Met extended C-type valve (CVE)

- suited for all materials
- can be used when $A < 20^\circ$



Related to the scope of size (when out of range, special design needed)

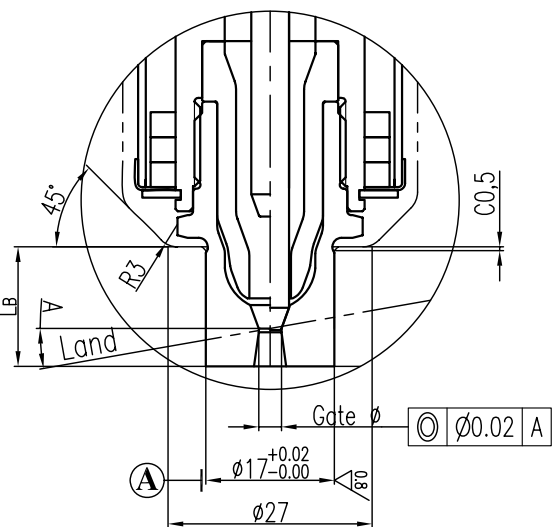
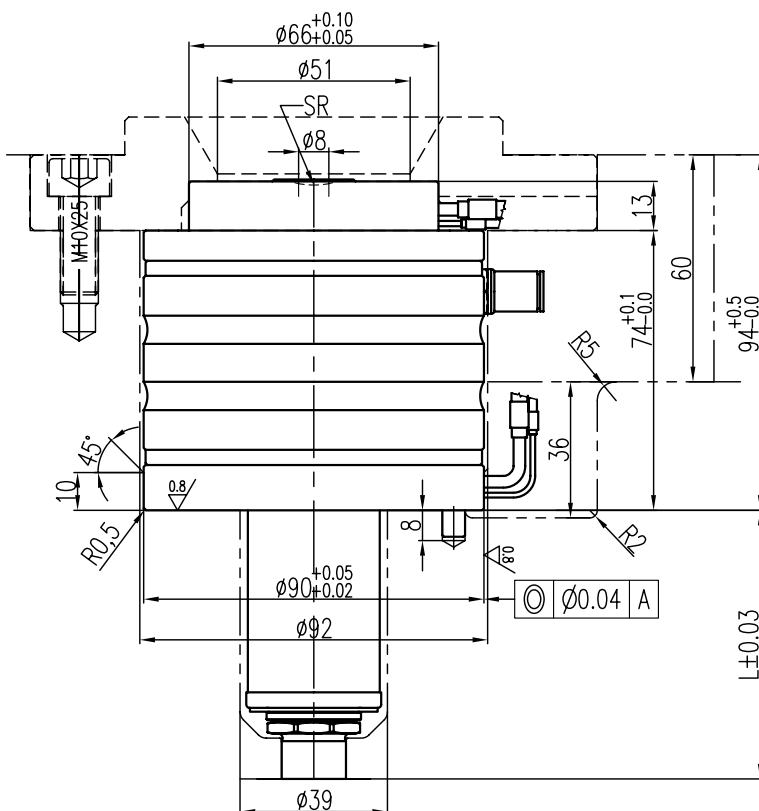
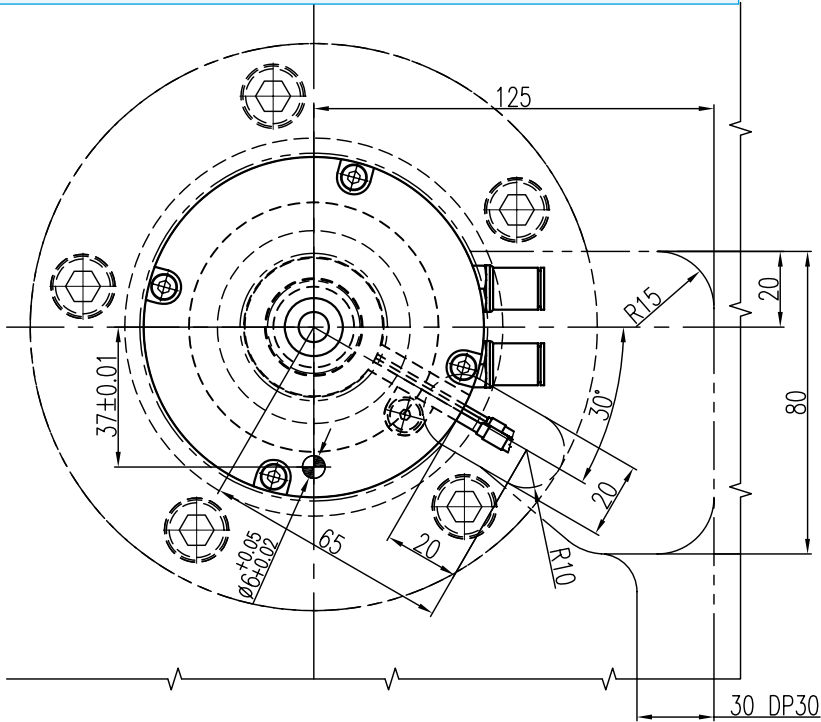
L	A	Gate Ø	Land
50 - 350	0° - 10°	2,0,3,0	8,0
	10° - 20°	2,0,3,0	8,5



Bi-Met extended C-Valve with bushing (CVEB)

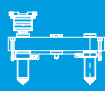
SX

- suited for all materials
- can be used when $A < 20^\circ$
- simplifies mold manufacturing



Related to the scope of size (when out of range, special design needed)

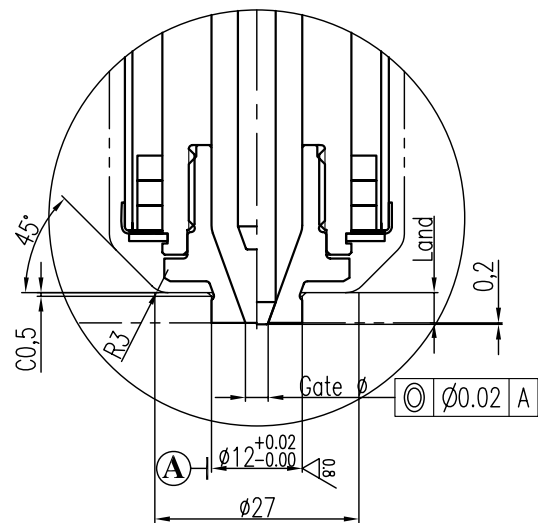
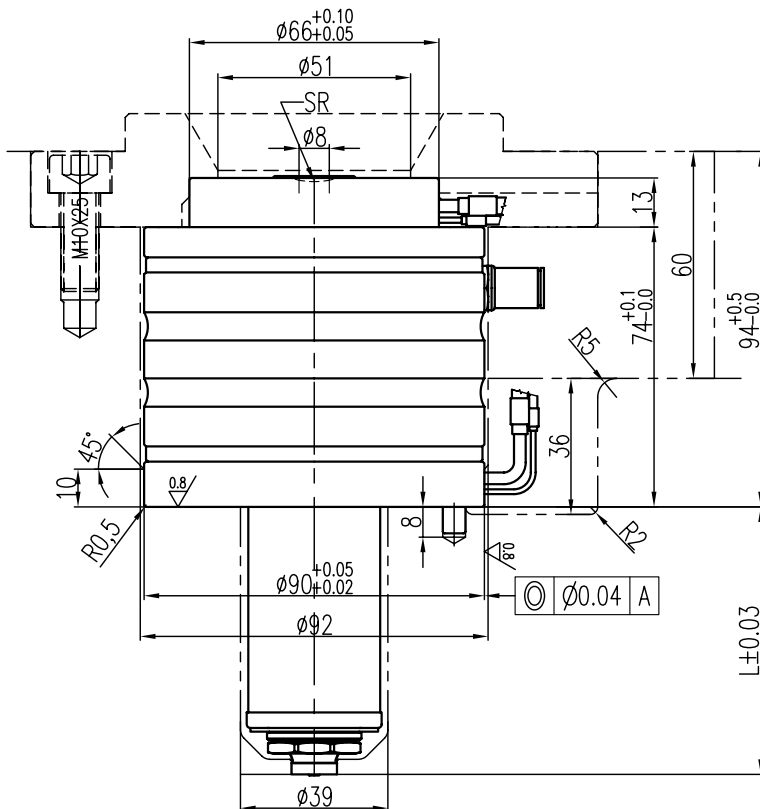
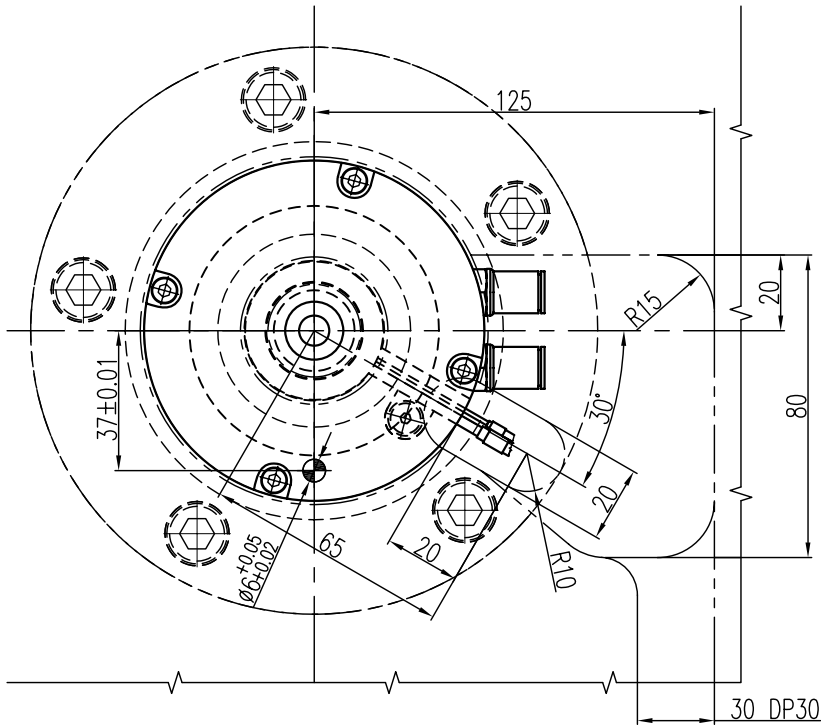
L	A	Gate \varnothing	Land
50 - 350	-	2,0, 3,0	10,8
	$0^\circ - 20^\circ$	2,0, 3,0	16,0



SX

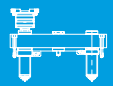
E-type Valve (EV)

- suited for crystalline materials
- simplifies mold manufacturing



Related to the scope of size (when out of range, special design needed)

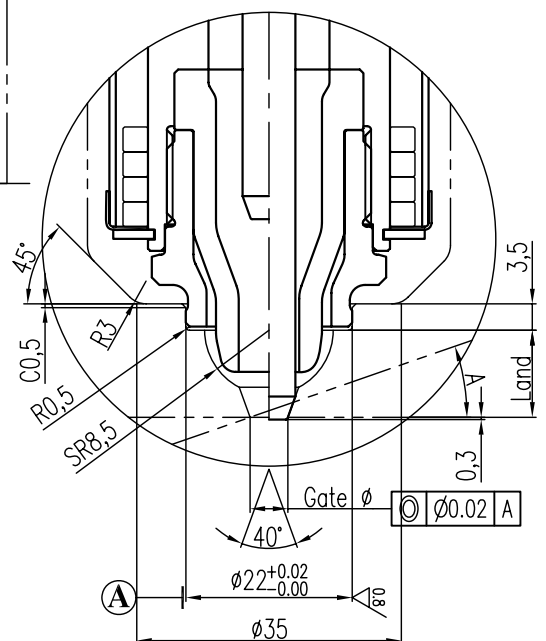
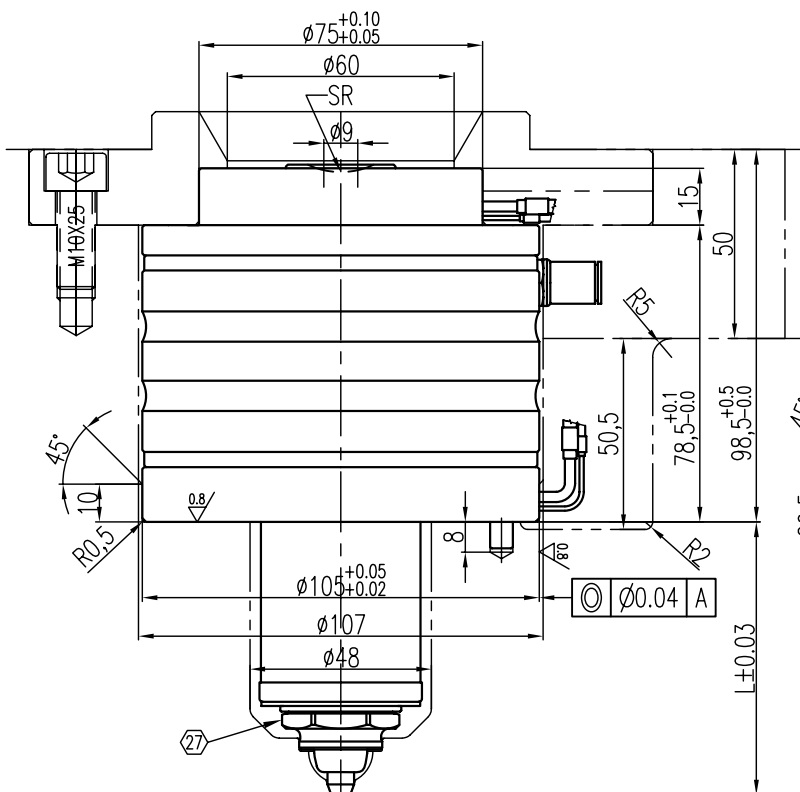
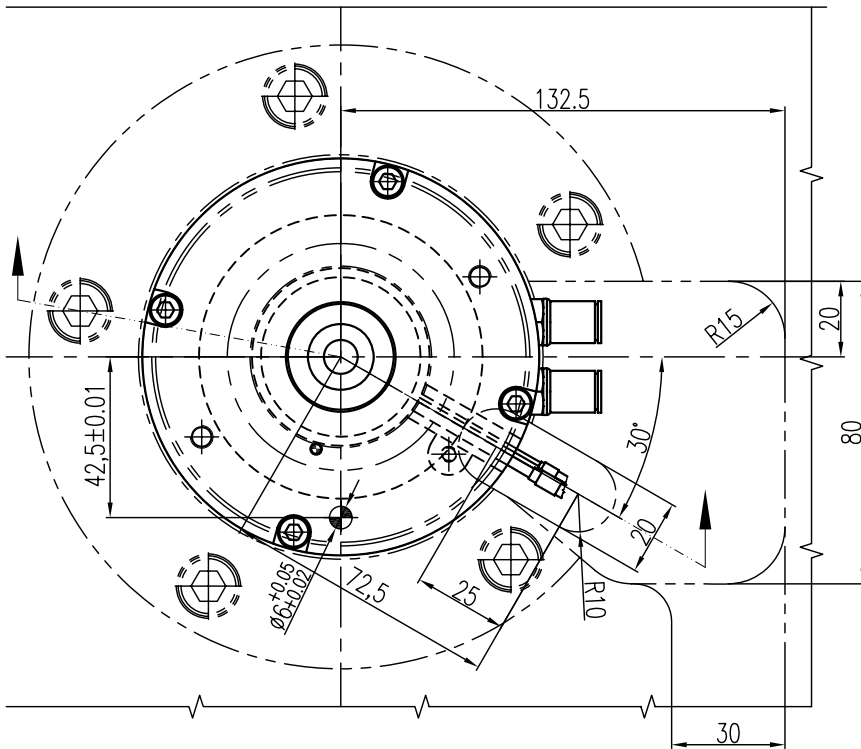
L	Gate Ø	Land
50 - 350	2,0, 3,0	4,0
	2,0, 3,0	4,0



Bi-Met extended C-type valve (CVE)

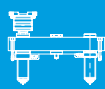
SX

- suited for all materials
- can be used when $A < 20^\circ$



Related to the scope of size (when out of range, special design needed)

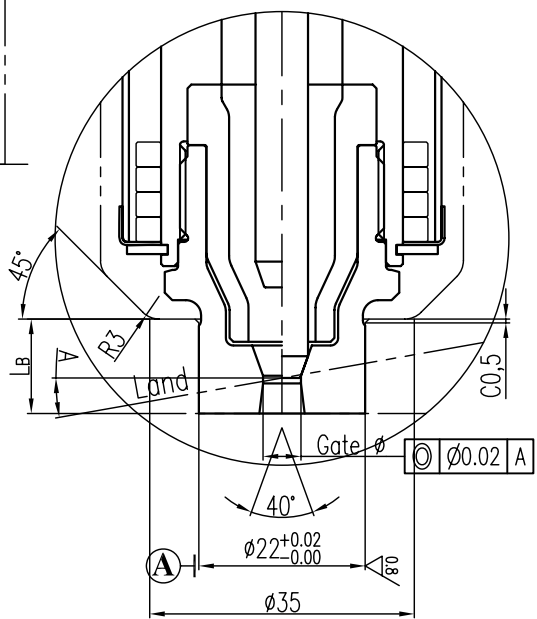
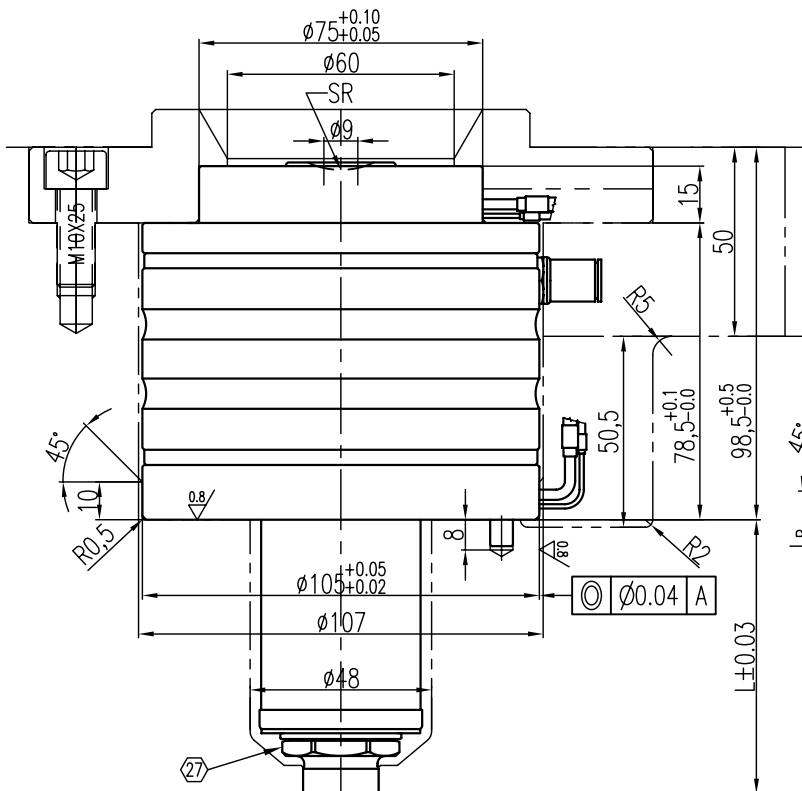
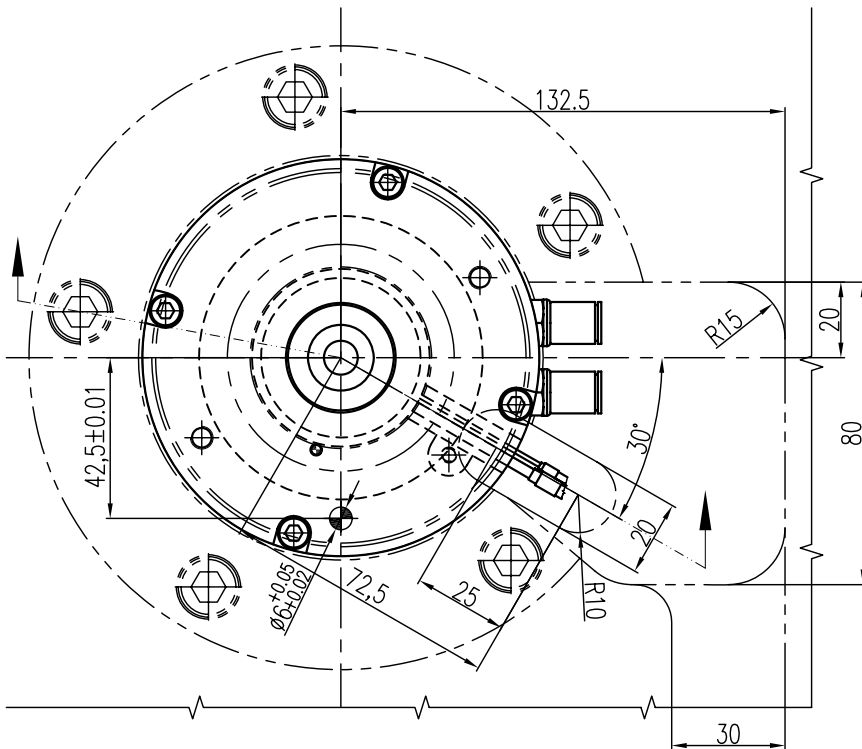
L	A	Gate \varnothing	Land
60 - 500	$0^\circ - 10^\circ$	3,0 , 4,0 , 5,0	11,5
	$10^\circ - 20^\circ$	3,0 , 4,0 , 5,0	12,2



SX

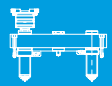
Bi-Met C-Valve with bushing (CVB)

- suited for all materials
- can be used when $A < 10^\circ$
- simplifies mold manufacturing



Related to the scope of size (when out of range, special design needed)

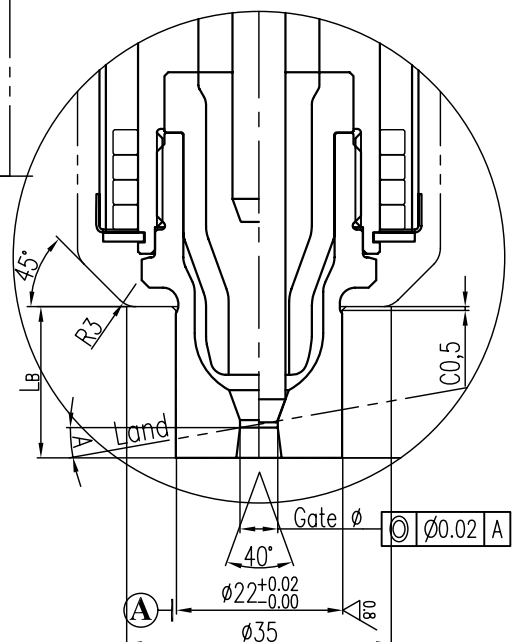
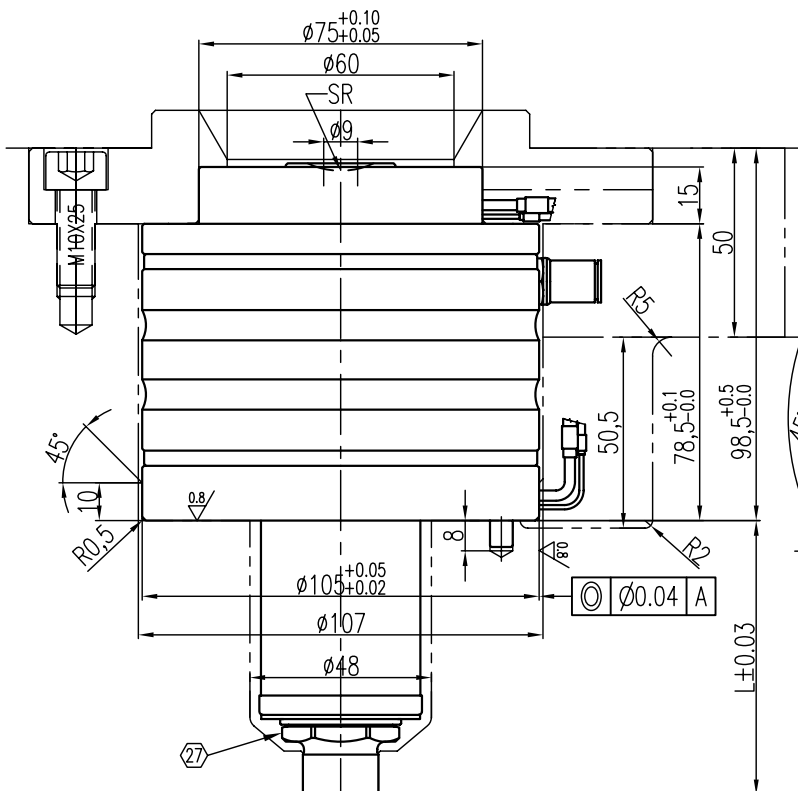
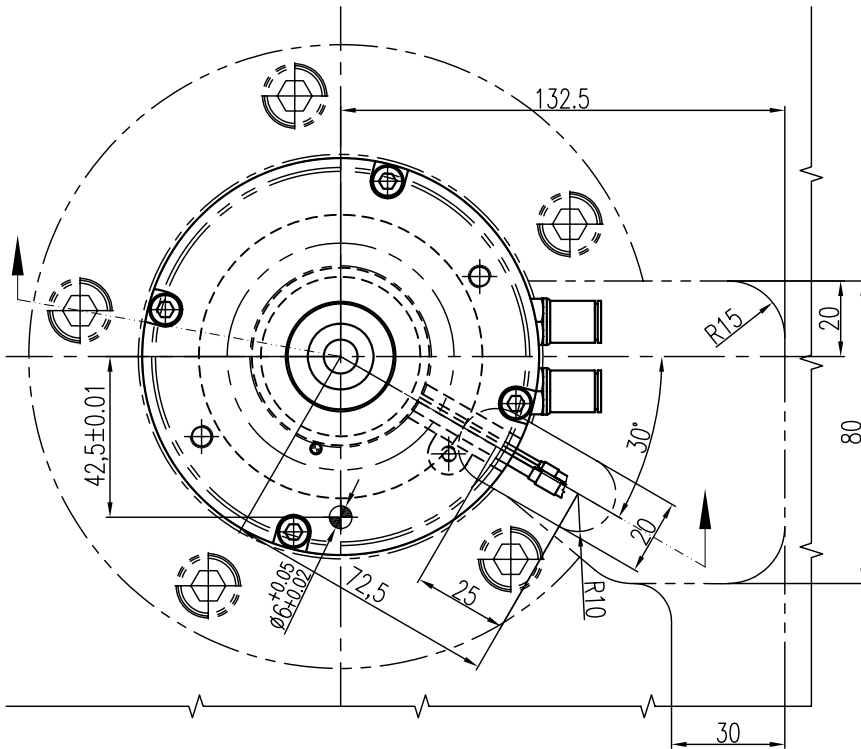
L	A	Gate Ø	LB
60 - 500	-	3,0 , 4,0 , 5,0	7,5
	10° - 20°	3,0 , 4,0 , 5,0	12,5



Bi-Met extended C-Valve with bushing (CVEB)

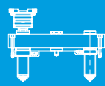
SX

- suited for all materials
- can be used when $A < 20^\circ$
- simplifies mold manufacturing



Related to the scope of size (when out of range, special design needed)

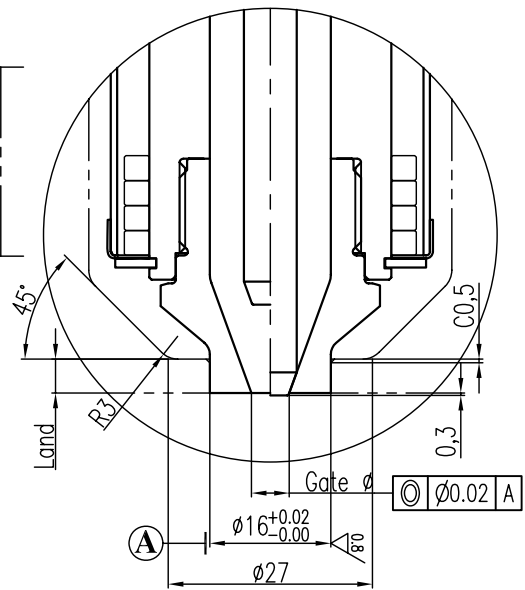
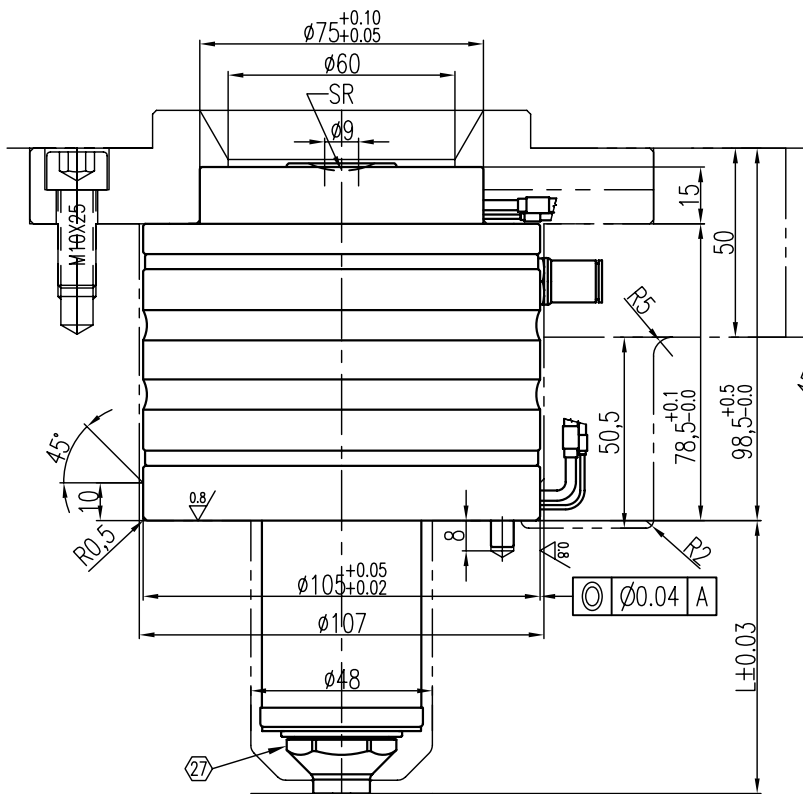
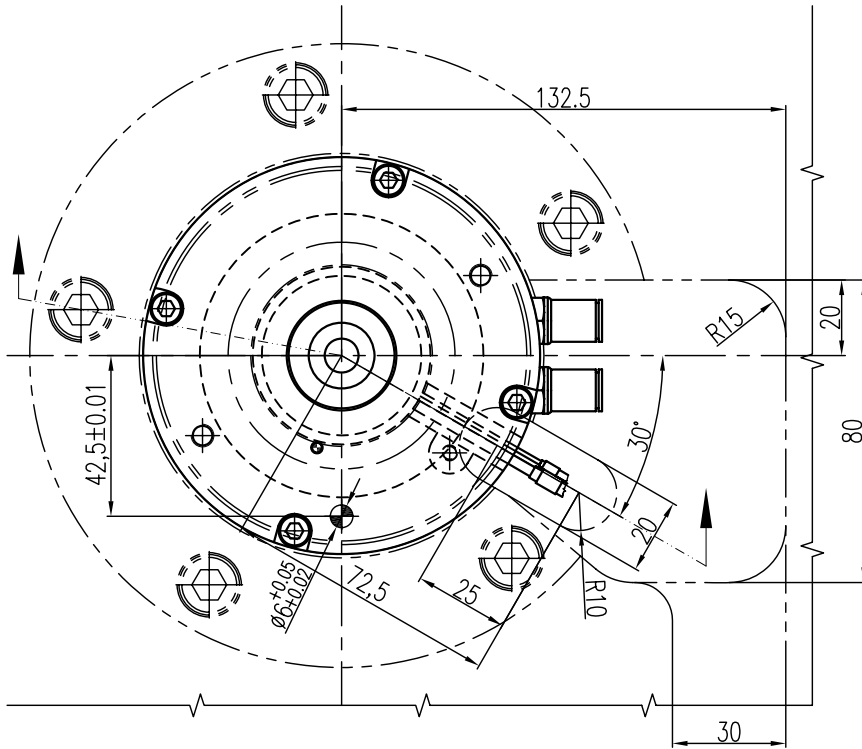
L	A	Gate ϕ	Land
60 - 500	-	3,0,4,0,5,0	15,0
	$0^\circ - 20^\circ$	3,0,4,0,5,0	20,0



SX

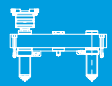
E-type Valve (EV)

- suited for crystalline materials
- simplifies mold manufacturing



Related to the scope of size (when out of range, special design needed)

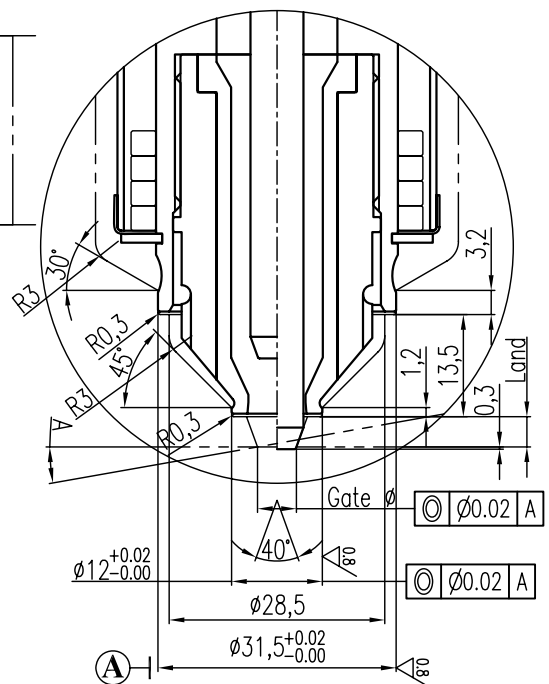
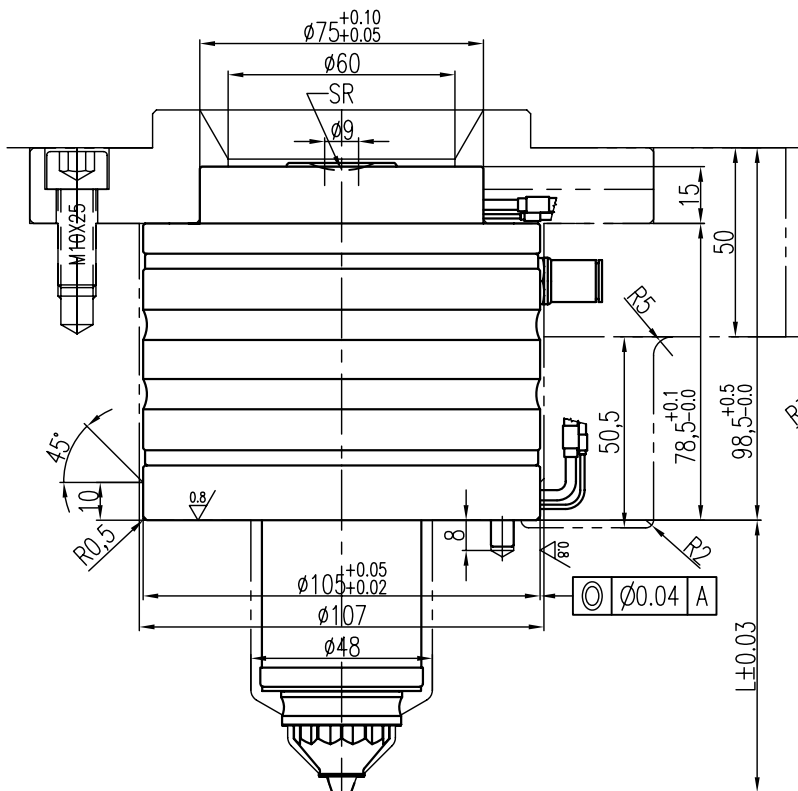
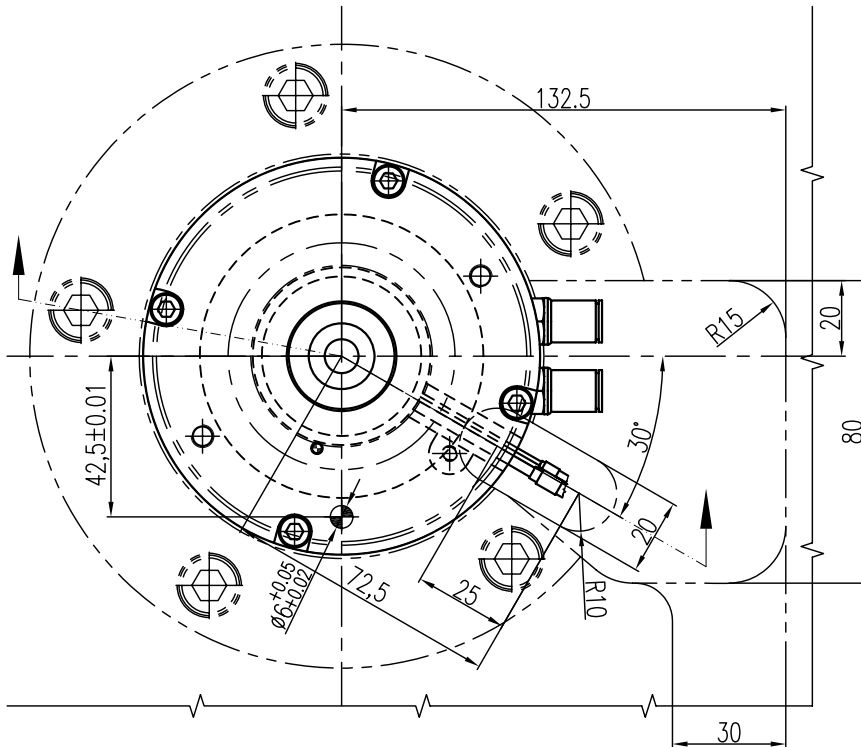
L	Gate \varnothing	Land
50 - 500	3,0	4,5
	4,0	4,5
	5,0	4,5



Bi-Met W-Valve (WV)

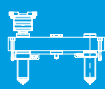
SX

- suited for lower processing temperatures of amorphous and semi-crystalline materials
- can be used when $A < 10^\circ$
- especially designed for high friction material



Related to the scope of size (when out of range, special design needed)

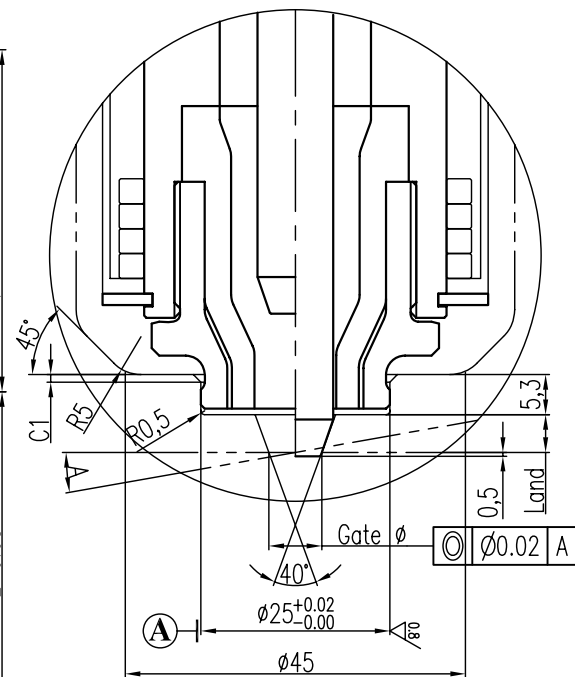
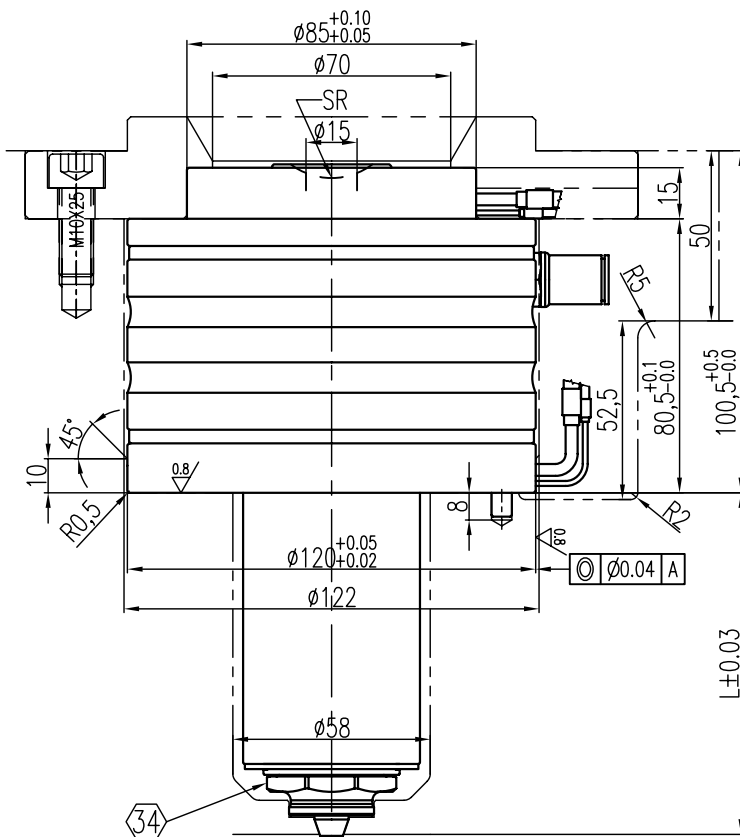
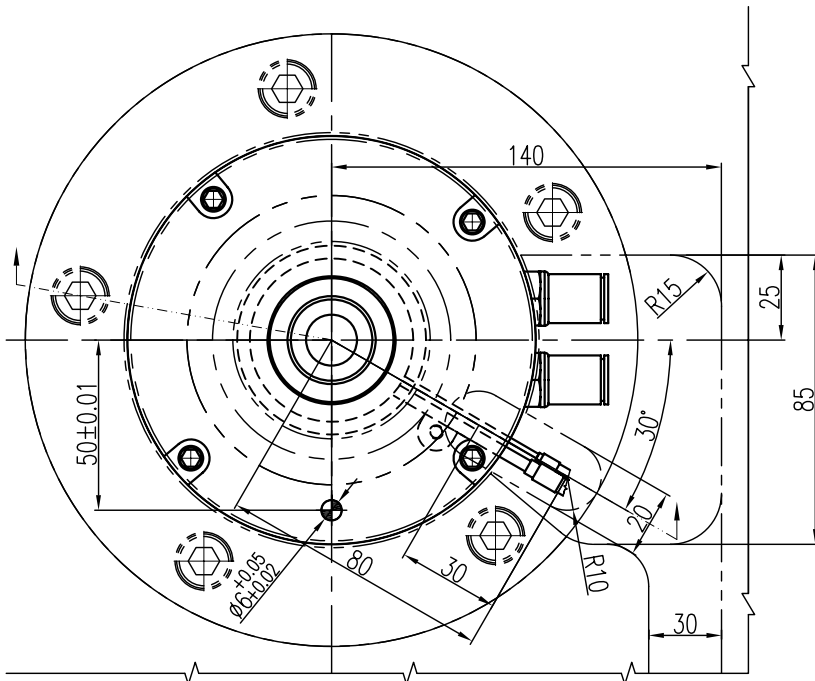
L	A	Gate \varnothing	Land
60 - 500	$0^\circ - 10^\circ$	3,0	4,0
		4,0	4,0
		5,0	4,0



SX

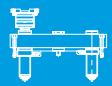
Bi-Met C-type valve (CV)

- suited for all materials
- can be used when $A < 10^\circ$



Related to the scope of size (when out of range, special design needed)

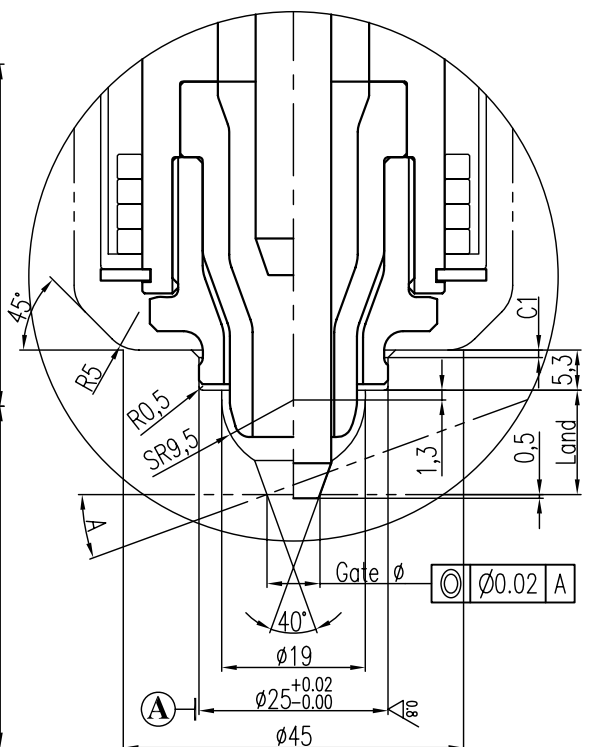
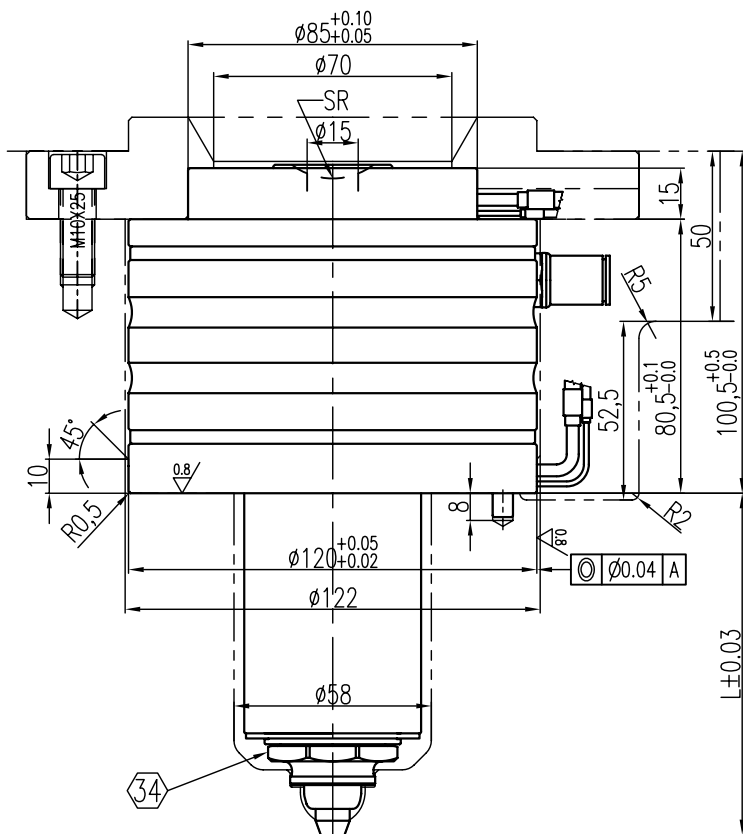
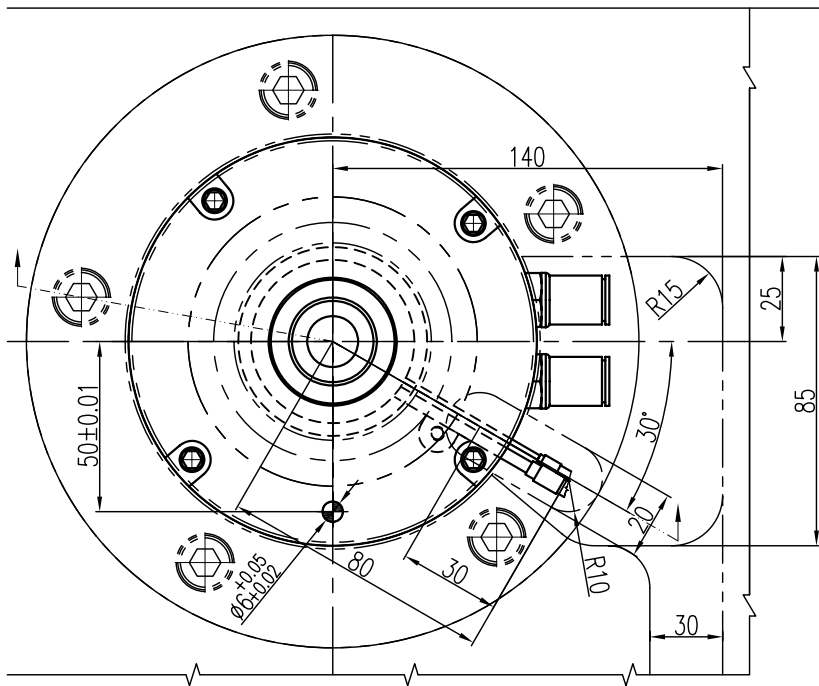
L	A	Gate Ø	Land
60 - 600	0° - 10°	5,0	5,0
		6,0	5,0
		7,0	5,0



SX

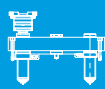
Bi-Met extended C-type valve (CVE)

- suited for all materials
- can be used when $A < 20^\circ$



Related to the scope of size (when out of range, special design needed)

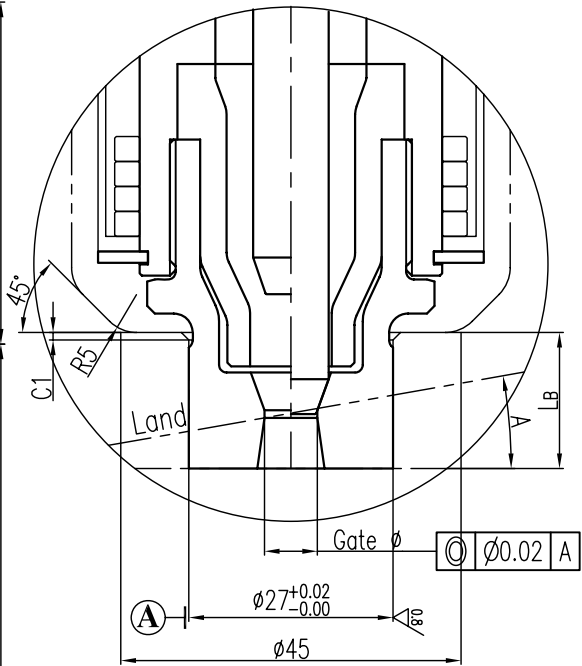
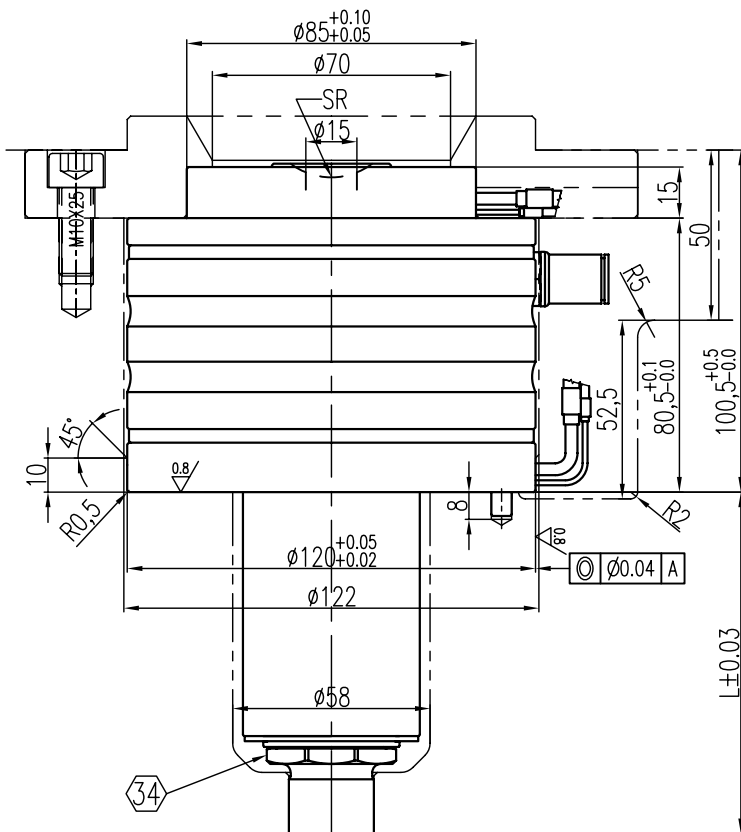
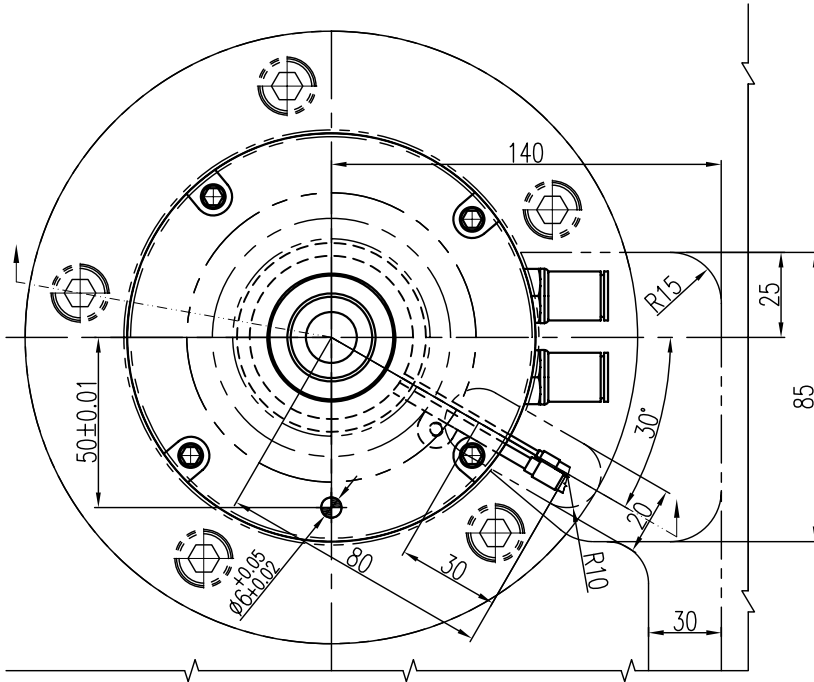
L	A	Gate \varnothing	Land
60 - 600	$0^\circ - 10^\circ$	5,0, 6,0, 7,0	14,0
	$10^\circ - 20^\circ$	5,0, 6,0, 7,0	15,2



SX

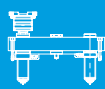
Bi-Met C-Valve with bushing (CVB)

- suited for all materials
- can be used when $A < 10^\circ$
- simplifies mold manufacturing



Related to the scope of size (when out of range, special design needed)

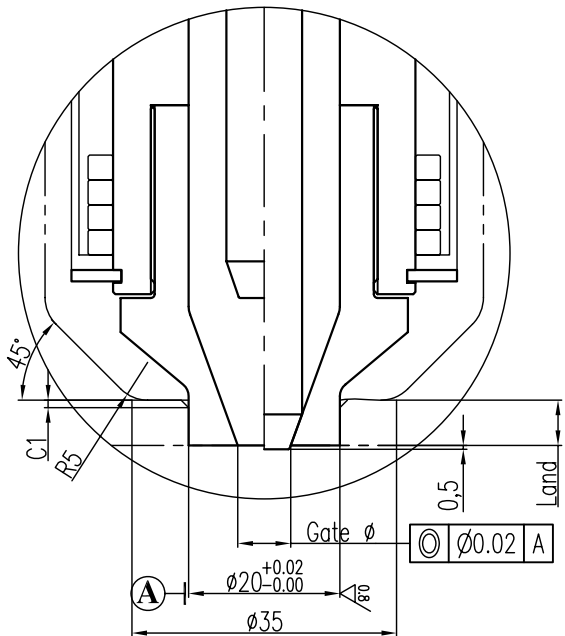
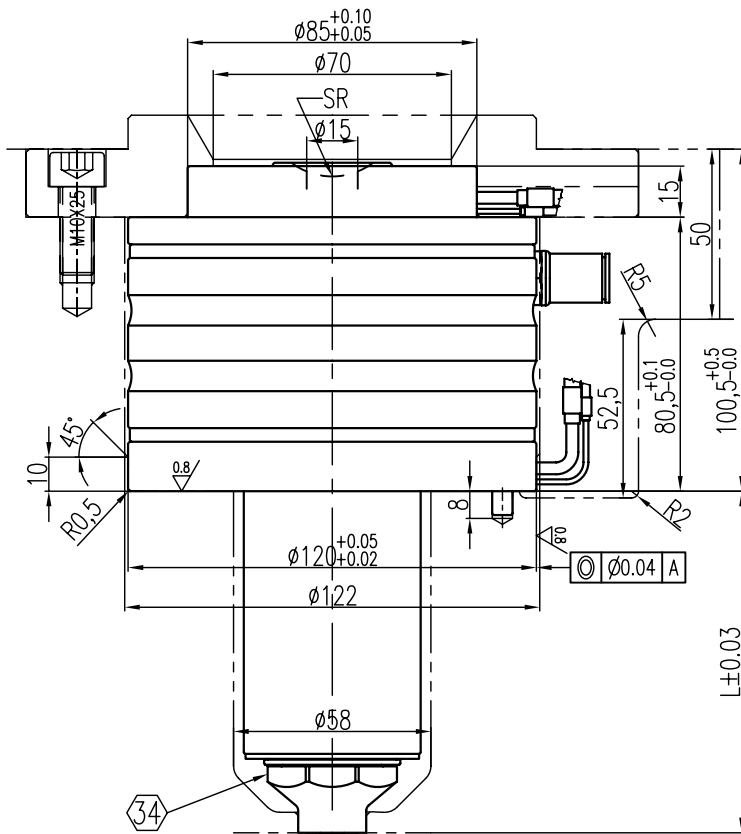
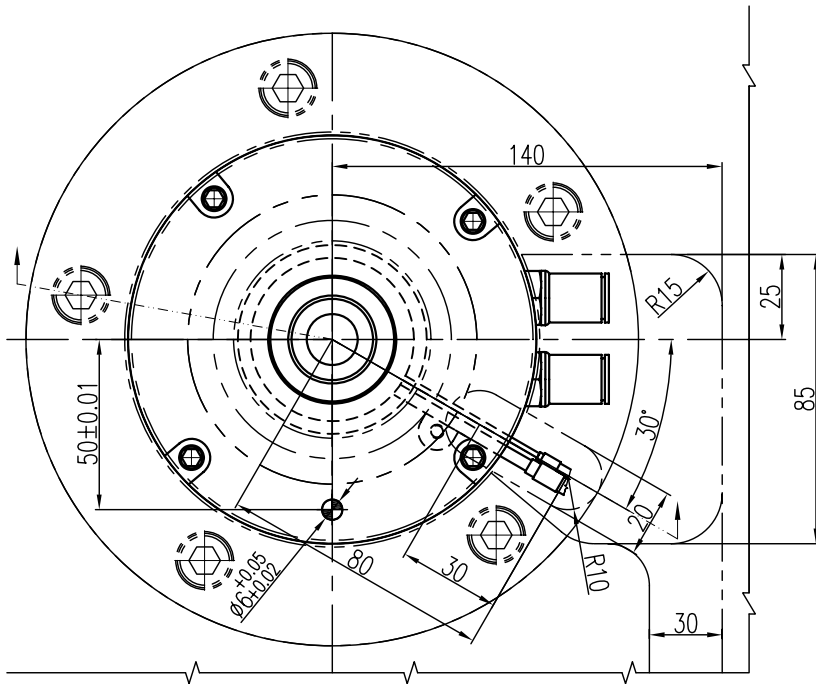
L	A	Gate Ø	LB
60 - 600	-	5,0,6,0,7,0	10,3
	0° - 10°	5,0,6,0,7,0	18,0



SX

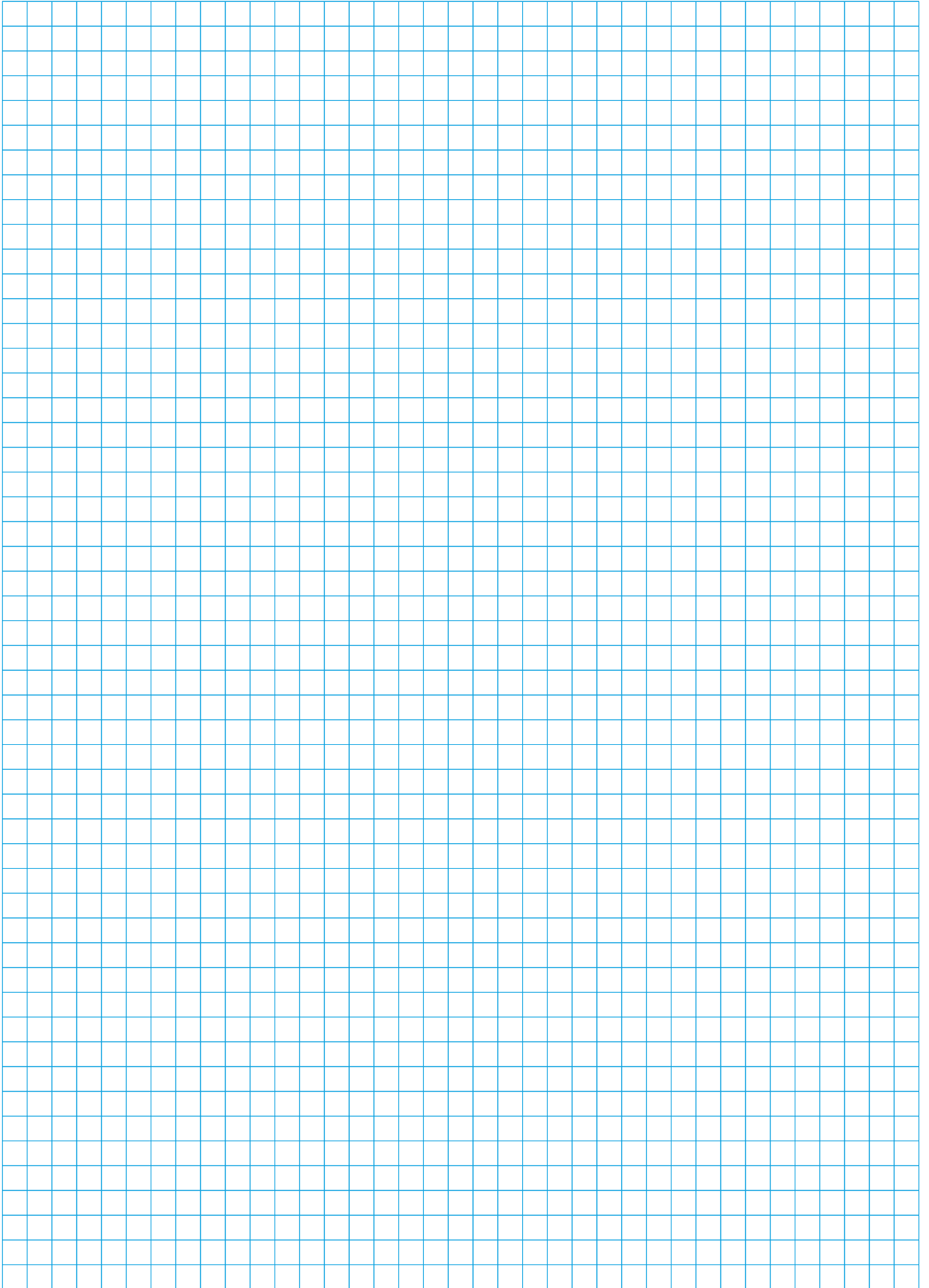
E-type Valve (EV)

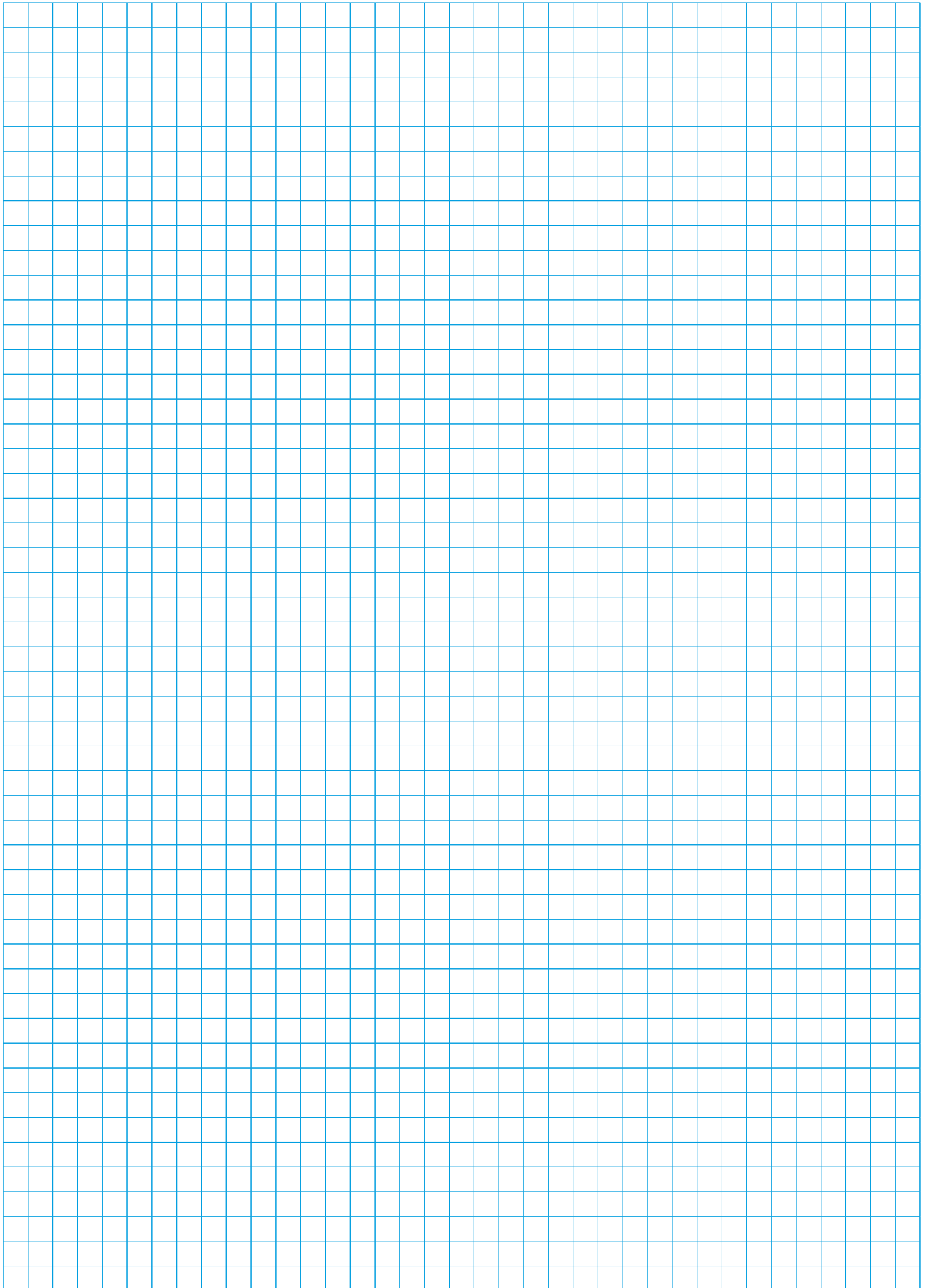
- suited for crystalline materials
- simplifies mold manufacturing

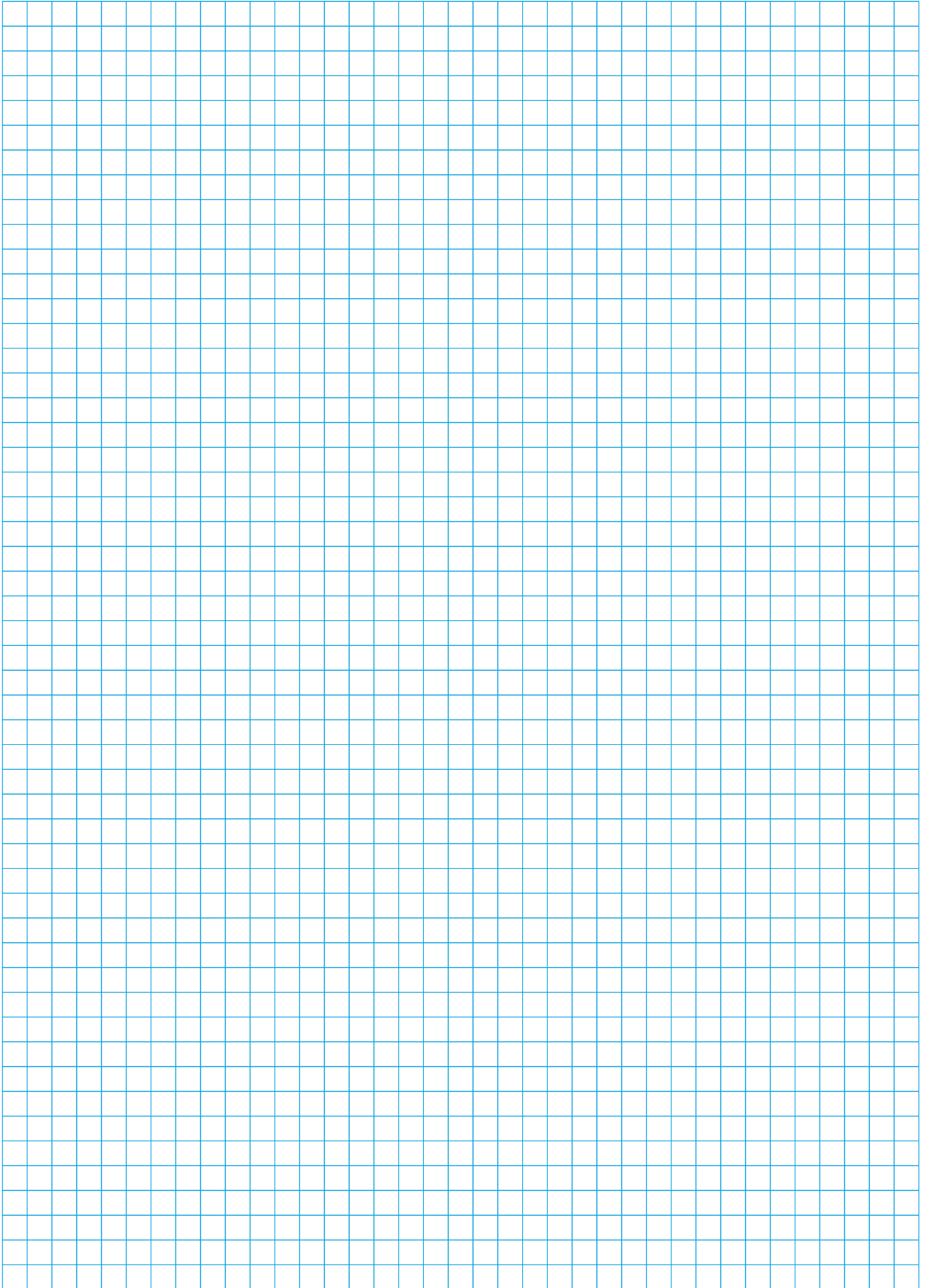


Related to the scope of size (when out of range, special design needed)

L	Gate \varnothing	Land
60 - 600	5,0	6,0
	6,0	6,0
	7,0	6,0







GENERAL CONDITIONS OF SALE DME EUROPE

1. CONCLUSION OF CONTRACT - APPLICATION

The contract is validly entered into and the order is accepted after written confirmation by seller. These sales conditions apply to the exclusion of any other terms or conditions, unless expressly accepted in writing beforehand by the vendor.

Seller has 30 (thirty) days since the reception of the order to accept or to refuse it. During this period, buyer shall not withdraw his order.

Absence of any written confirmation of the order shall only be interpreted as being an implicit acceptance in case of performance of the order by seller.

2. PAYMENT

Unless otherwise agreed in writing, invoices are payable in the stated currency within 30 (thirty) days after invoice date to the bank designated by seller. Transfer charges are for account of buyer.

If buyer does not pay within this term, seller shall automatically have ipso jure and without any prior formal notice, the right to charge legal interest plus 2 % from due date of the invoice. Moreover, in case of late payment, a fixed indemnity corresponding to 10 % of the payable amount shall automatically be due from the first day following the due date, without prejudice to seller's right to prove higher damage and ask for corresponding indemnity. Should payment be in foreign currency, seller has the right to adapt the foreign currency in case of depreciation of this foreign currency in regard of the euro.

Should payment of the delivered goods be in instalments, the non-payment of one of the instalments gives seller the right to terminate the contract. The payments, which were done until then, shall remain property of seller as indemnity, without prejudice to the right to claim further damages or to the right to require the performance of the contract.

Payment of advance shall not give buyer the right to terminate the contract upon reimbursement of the paid advance. If payment is done by bill of exchange or check, payment is deemed satisfied only when the bill of exchange or the check is honoured.

Place of payment is always Mechelen even if payment is done with bill of exchange.

3. RETENTION OF TITLE

Delivered goods remain property of seller until full payment has been received by seller. The sale of an unpaid item by buyer to a third party results in automatic assignment of the debt due by the third party to buyer, inclusively the retention of title, to seller. Seller has then the authority to take any necessary means in order to validly assign towards the third party. Seller may retake unpaid goods at any time and he may inform any client and/or any subcontractor of buyer about the fact that seller is and remains the only owner of the concerned goods until full payment.

The purchaser undertakes to carefully keep the goods that have not been paid for, and undertakes not to pledge them or use them in any other way as a guarantee or security. The purchaser shall inform third parties who may apply any security rights over his assets (such as, but not limited to, the lessor of the premises occupied by the purchaser) that the products are and shall remain the property of the vendor until full payment of all sums owed by the purchaser to the vendor, and in the event of an attachment or other measures taken by third parties that apply to products for which full payment has not yet been made the purchaser undertakes to immediately inform the vendor of this to enable him to apply his rights.

4. RISKS

Notwithstanding the preceding provisions, the risk transfers to buyer as soon as he has the goods at his disposal.

5. DISPATCHING OF INSIGNIFICANT VALUE

Each dispatch of less than € 50 will be increased with costs of payments and may, at seller's option, be sent cash on delivery (COD).

6. PRICE OFFERS AND PRICE LISTS

Price offers and price lists are without obligation and are subject to change without any previous notice.

Any information released by seller is delivered in good faith and seller shall not be responsible for the choice of material and goods.

7. PRICE AND DISPATCHING

All prices are ex works. Transportation, duties and taxes for account of buyer, unless seller's previous and express written specification to the contrary. Seller shall send goods by the fastest and most economic way at the risks of buyer. Goods may be insured by seller at buyer's option, the insurance premiums are for buyer. Seller is not responsible for the choice of packing.

8. DELIVERY

Date of delivery is the date when the goods are ready for inspection at the indicated place. Place of origin is Mechelen, Belgium, or any other place indicated by seller. Seller is not responsible for any late delivery, except those delays due to his own fault or gross negligence.

9. RETURNING OF GOODS

No goods can be returned without seller's previous, express and written consent. If buyer commits an error in ordering, the retaking of goods is possible only for inventory standard items. Goods must be returned within 15 (fifteen) days after invoice date and all goods must be in original conditions; all costs of transport are for buyer, as well as insurance and repacking costs. Special-order goods, marked or used items are non-returnable.

10. DEFECTS

Seller warrants defects in material and/or workmanship. Warranty is limited to the replacement or repair, at seller's option, of any merchandise found defective during 1 month. This warranty does not include defects due to buyer's fault or to abnormal use, bad maintenance, imperfect installation, buyer's inadequate repair, unforeseeable circumstances or in case changes were brought to material without previous and express written approval of seller.

Notice of conspicuous defects must be given to seller by registered letter sent within 10 (ten) working days following date of delivery.

Notice of hidden defects must be given to seller by registered letter within 10 (ten) working days after date of discovery, and in any case, within a 10-month term following date of delivery.

Seller is not responsible for any damage and in particular salary and material costs, losses, loss of profit or loss of a chance incurred by buyer, unless it is demonstrated that defect is due to seller's gross or intentional fault. If seller is responsible for a defect, seller has the right either to terminate the contract and to pay back all the invoiced prices or to replace the delivered product within a reasonable term. If goods for repair must be transported, costs and risks of this transport are for buyer.

In case seller is responsible for any damage, this will be limited to the foreseeable damage with a maximum amount corresponding to the amount of the product's invoiced price.

Should a third party lodge a claim against seller to obtain payment of an indemnity for a damage for which seller is not responsible in accordance with the present conditions or for a higher amount than the one seller is responsible for, buyer will warrant seller against those claims.

11. DESCRIPTION

Only product descriptions used in seller's latest literature and correspondence with buyer, are binding for description of goods.

Buyer is responsible for using items in conformity with all regulations, including but not limited to, the safety regulations in force at the place of use.

12. SPECIFIC ORDERS

For the performance of a special work, the project signed by buyer is binding to the extent it has been accepted by seller.

For the performance of such work, special conditions may be required. In case of any inconsistency between general conditions and special conditions, the special conditions shall apply. Should special conditions be unclear, they shall be interpreted in light of the general conditions.

13. ACT OF GOD

Seller shall not pay any damage for non-performance or late performance of his undertakings due to Act of God. Act of God includes in particular and without being limited thereto, strike, lock-out, and the non-performance by seller's suppliers of their undertakings.

14. VALIDITY AND INDIVIDUAL CLAUSES

If one or more provisions of these present general conditions are held to be invalid, the remaining provisions will continue to be valid and enforceable, and parties will agree upon other provisions having an economic effect that corresponds closest to the economic effect of the invalid provision(s).

15. WAIVER

In case seller does not exercise one of his rights in accordance with the present conditions, this shall not be interpreted as a waiver of these rights.

16. APPLICABLE LAW – COMPETENT COURTS

This sales contract will be governed by Belgian law. The competent court is the Commercial Court of Mechelen, without prejudice to seller's right to introduce the case before another competent court.



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