

# Dynamic Gas Venting System

**SIMPLE SOLUTIONS FOR  
INTERNAL VENTING**

# Dynamic Gas Venting System

## Better Part Quality with Greater Output

Ideally suited for large part molding and corrosive environments where excessive gasses can be an issue.

Insufficient venting is a common challenge and can be the source of major challenges in the molding process. Problems can be avoided with good mold design and the incorporation of specially designed engineered components and/or materials that enable the venting of the material. DME is the Industry leader in Venting Solutions and provides a wide selection of products to meet your specific application requirements in both small and large tooling.

The Dynamic Gas Venting System can be installed with minimum machining and is designed to deliver a simple venting solution without the need to add any external vacuum.

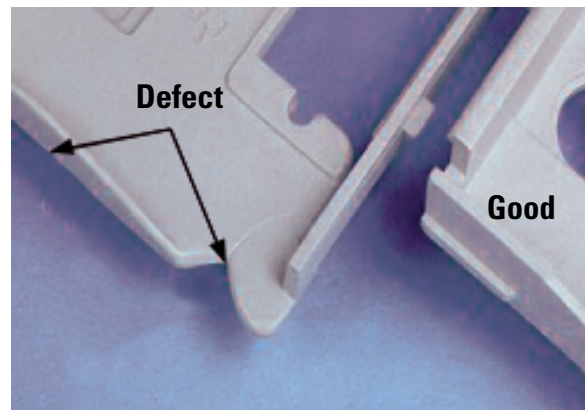
*For assistance selecting the proper vent for your application email [DME\\_Mech\\_Eng@dme.net](mailto:DME_Mech_Eng@dme.net) include the part's CAD STEP file and resin specifications.*

*Incorporating the DME venting products into your tool can save a headache during the molding process. Three of the most common plastic part defects caused by gas and air are Burn Marks, Short Shots and Knitlines. Stop scrapping parts and save unnecessary down time.*



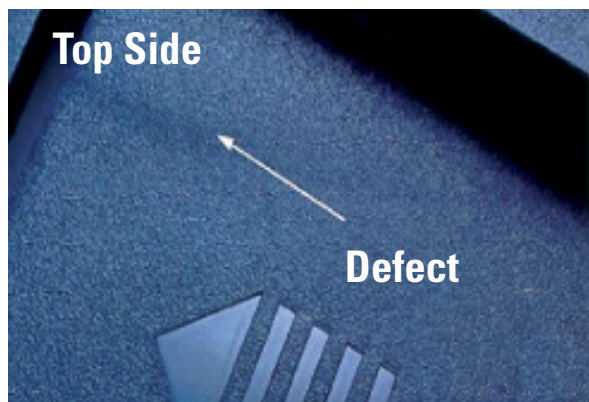
### **Burn Marks**

*Discoloration - usually black, brown or dark yellow/brown depending on severity. Feels rough and crunchy. Frequently accompanied by short shot in burn area*



### **Short Shots**

*Missing plastic or features that are not fully formed. Missing corners or features have a smooth or rounded appearance.*

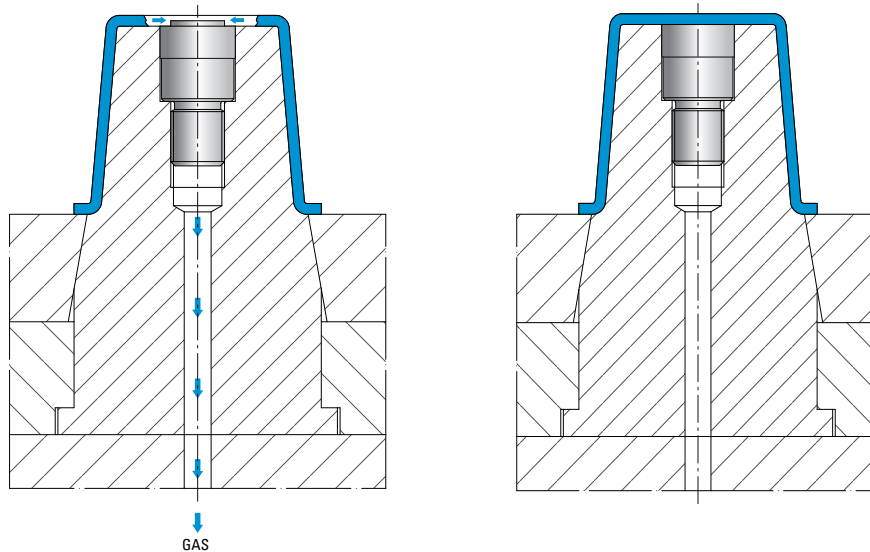


### **Knitlines**

*A knitline is where molten polymer flow fronts meet in the cavity. Incomplete adhesion occurs along a knitline and causes a weak point in the plastic part*

# SGD14-Series Gas Vents

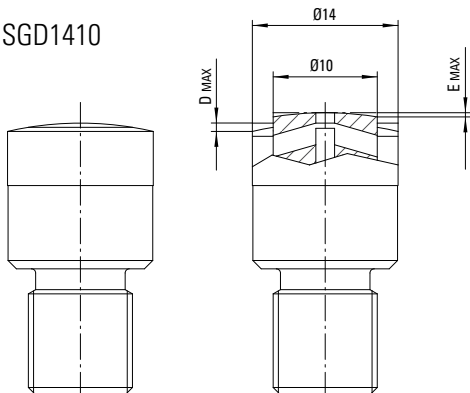
- High venting capacity
- Venting surface slowly affected by mold deposits
- In cavity air back pressure dramatically reduced
- Improvement of aesthetic characteristics of the injected part
- Possibility of front disassembly



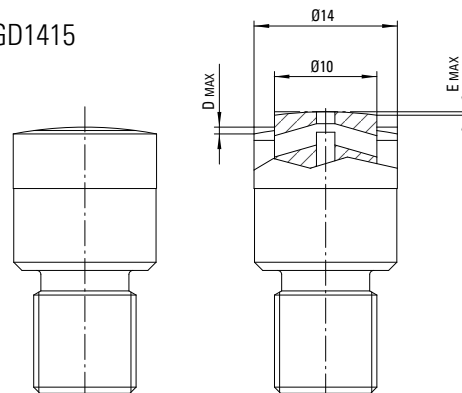
During the injection process the spring keeps the sliding insert in “open position” allowing the gases to exit through the hole on the top of the valve. When the flow front reaches vent the sliding insert moves back under plastic pressure to “close position” and closes the gas venting hole.

The SGD14 valves can be shaped within the maximum limit shown below.

SGD1410

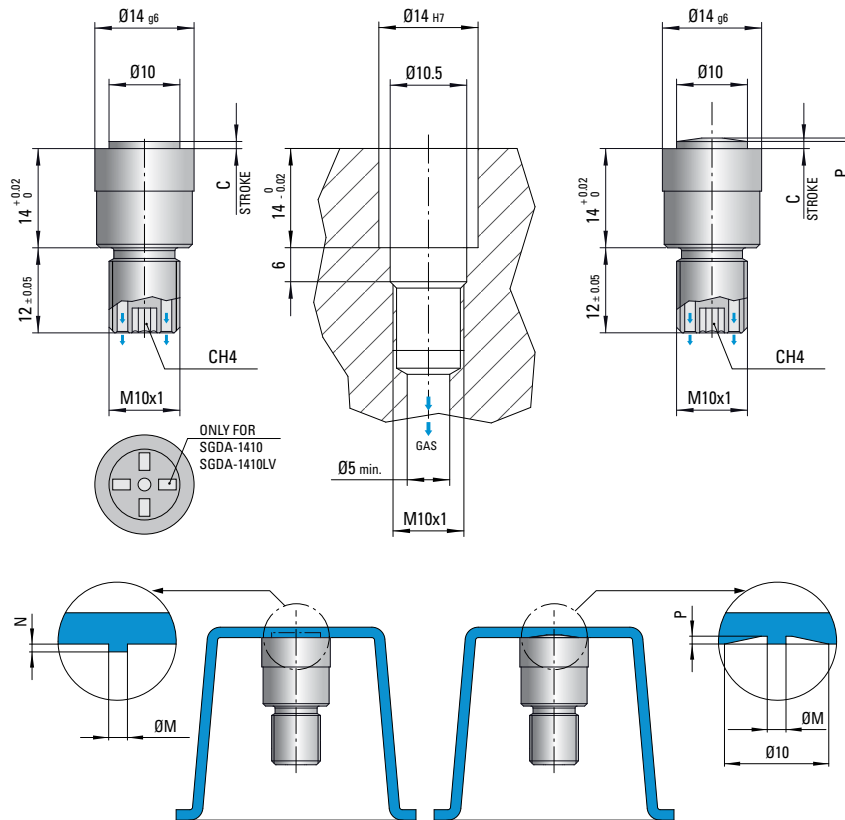


SGD1415



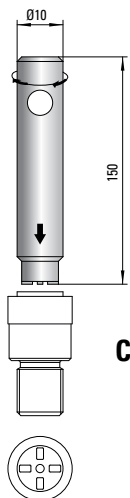
ITEM NUMBER	D	E
SGD1410	0.8	0.4
SGD1415	0.5	0.25

# SGD14-Series Gas Vents



Mat.: 420SS  
Hardness: 50-52 HRC

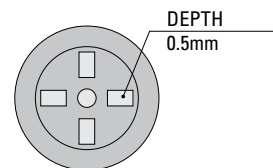
ITEM NUMBER	C	M	N	P	SUITABLE FOR
SGD1410LV	1	1.2	0.5	-	High & Low Viscosity Materials
SGDA1410LV	1	1.2	0.5	-	
SGD1410CLV	1	1.2	-	0.5	
SGD1415LV	1.5	-	-	-	
SGD1410	1	2	0.5	-	High Viscosity Materials Only
SGDA1410	1	2	0.5	-	
SGD1410C	1	2	-	0.5	
SGD1415	1.5	-	-	-	



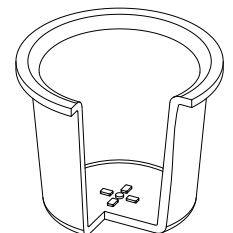
The SGDA1410 valve can be screwed and unscrewed thanks to the special key **CSSGDA**. This application makes faster and simpler the valve maintenance procedure.

**CSSGDA**

The top surface of the valve type SGDA1410 is machined to fit the key code CSSGDA.

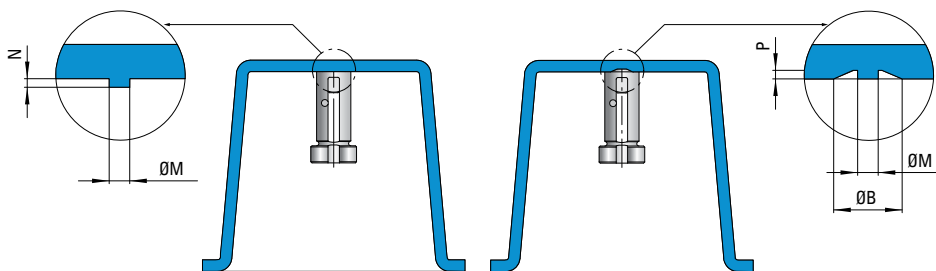
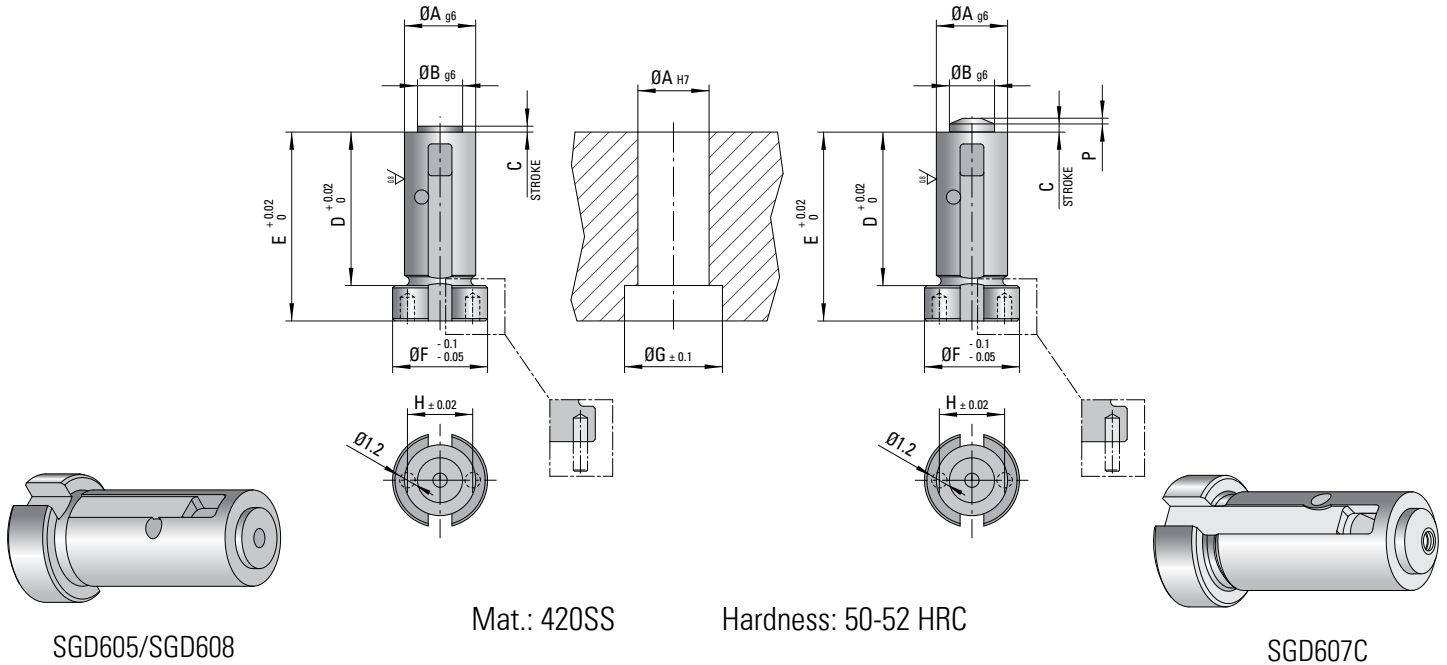


Such special machining creates four protrusions 0.5 mm thick on the injected part.



# SGD6-Series Gas Vents

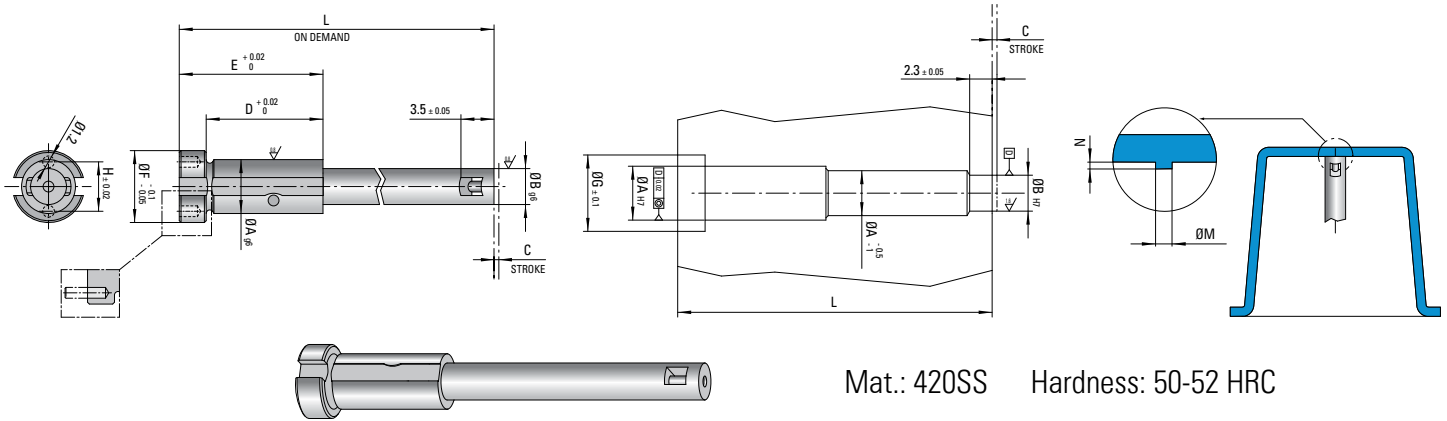
- High venting capacity
- Venting surface slowly affected by mold deposits
- In cavity air back pressure dramatically reduced
- Improvement of aesthetic characteristics of the injected part
- Possibility of front disassembly



ITEM NUMBER	A	B	C	D	E	F	G	H	M	N	P
SGD605	6	4	0.5	13	16	8	8.5	5.5	1.2	0.3	-
SGD608*	6	4	0.8	13	16	8	8.5	5.5	-	-	-
SGC607C	6	4	0.7	13	16	8	8.5	5.5	1.2	-	0.5

\* It is necessary to inject a blast of air after ejection of plastic part (see Technical Notes)

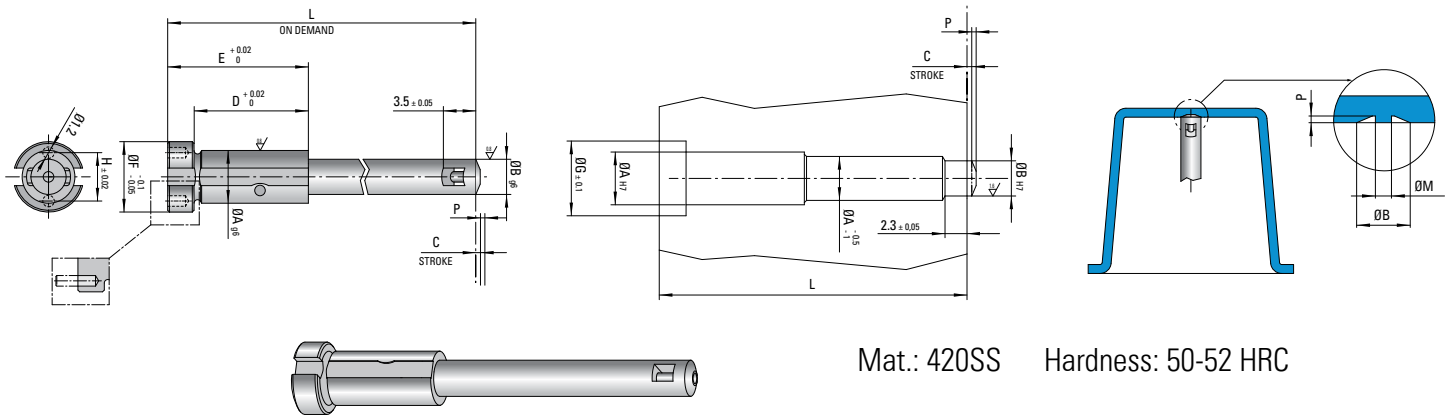
# SGDL6-Series Gas Vents



Mat.: 420SS Hardness: 50-52 HRC

ITEM NUMBER	A	B	C	D	E	F	G	H	L (min)	L (max)	M	N
SGDL605	6	4	0.5	13	16	8	8.5	5.5	20	105	1.2	0.3
SGDL608*	6	4	0.8	13	16	8	8.5	5.5	20	105	-	-

\* It is necessary to inject a blast of air after ejection of plastic part (see Technical Notes)

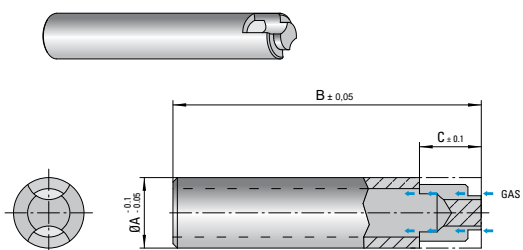


Mat.: 420SS Hardness: 50-52 HRC

ITEM NUMBER	A	B	C	D	E	F	G	H	L (min)	L (max)	M	P
SGDL607C	6	4	0.7	13	16	8	8.5	5.5	20	105	1.2	0.5

## GAS VENTING VALVE

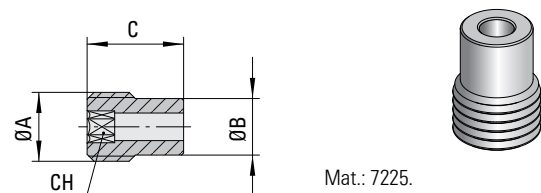
ITEM NUMBER	A	B	C
DSGD6	8	50	7



Mat.: carbon steel  
Hardness: 750 N/mm<sup>2</sup> (220 HB)  
Nitred depth 0.1mm

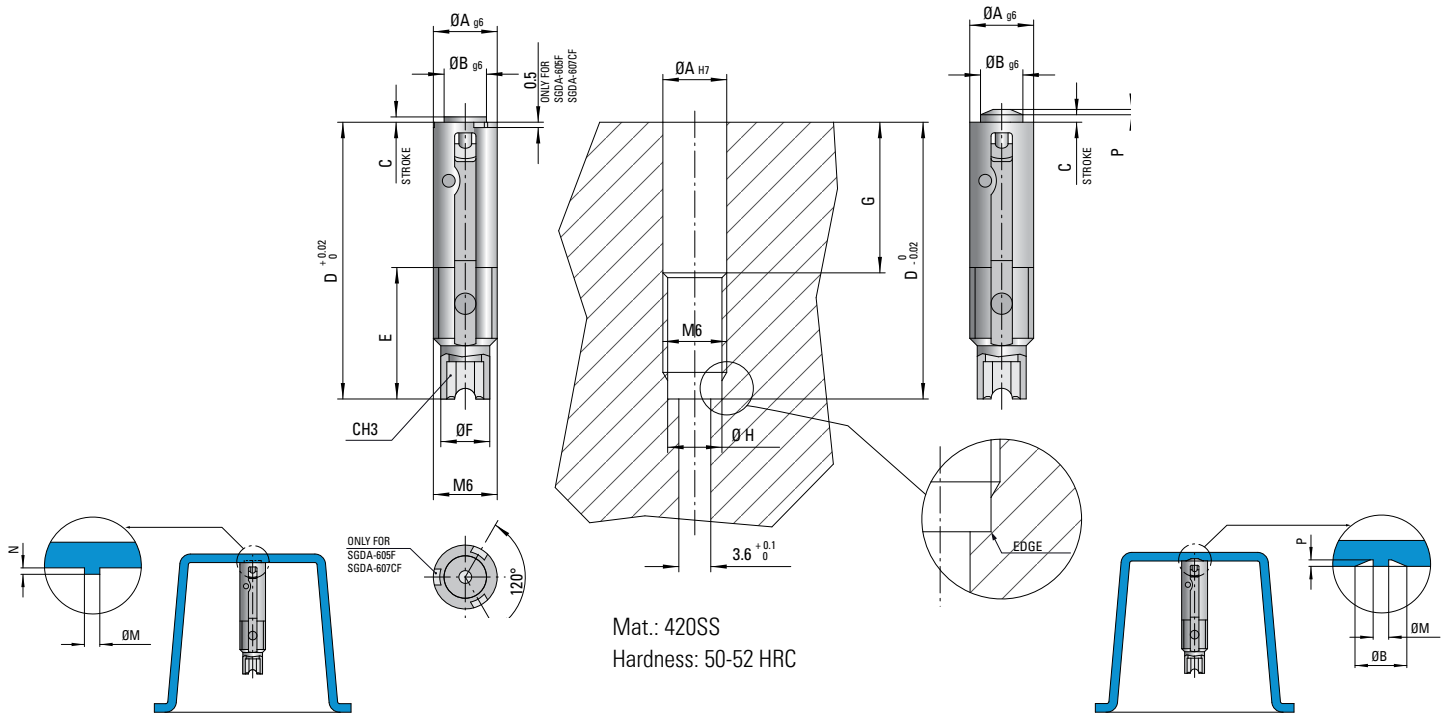
## GAS VENTING VALVE DOWEL

ITEM NUMBER	A	B	C	CH
GSGD6	M10	8.3	14	4



Mat.: 7225.  
Hardness: 750 N/mm<sup>2</sup> (220 HB)  
Nitred depth 0.1mm

# SGD6CF/F-Series Gas Vents



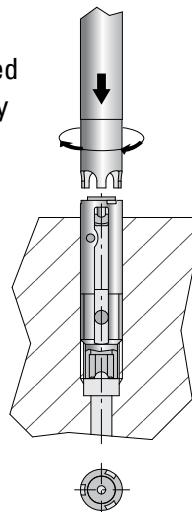
ITEM NUMBER	A	B	C	D	E	F	G	H	M	N	P
SGD605F	6	4	0.5	26	12	4.6	15	5.1	1.2	0.3	-
SGDA605F			0.5						1.2	0.3	-
SGD608F*			0.8						-	-	-
SGD607CF			0.7						1.2	-	0.5
SGDA607CF			0.7						1.2	-	0.5

\* It is necessary to inject a blast of air after ejection of plastic part (see Technical Notes)

## FRONT UNSCREWING

Valve SGDA605F can be screwed and unscrewed with special key **CSSGDAF**.

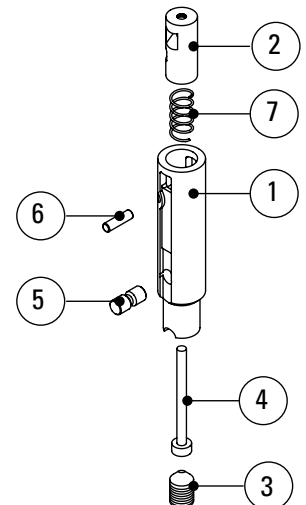
This application makes valve maintenance procedure faster and easier.



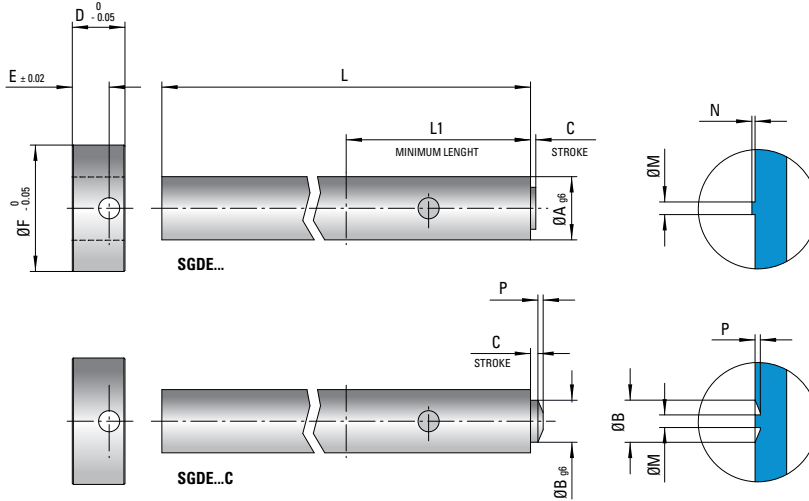
## CLEANING & MAINTENANCE

It is possible to disassemble the dynamic venting valve with the following procedure:

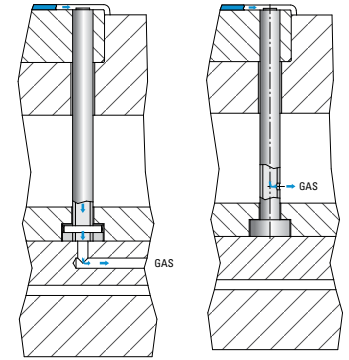
- Remove the assembly pin (6)
- Remove the sliding shaft (2) and the spring (7)
- Unscrew the internal dowel (3)
- Remove the pin for body fixing (5) and central pin (4)



# GAS VENTING EJECTOR PIN



Mat. valve: 420SS  
 Hardness: 50-52 HRC  
 Mat. ejector pin: H13  
 Hardness: 950 HV



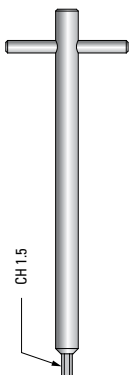
*The gas can flow out of the ejector pin through a hole machined in the ejector plate or in the ejector rod.*

ITEM NUMBER	A	B	C	D	E	F	M	N	P	L1	L	
SGDE605	6	4	0.5	5	3.5	12	1.2	0.3	-	35	300	400
SGDE607C	6	4	0.7	5	3.5	12	1.2	-	0.5	35	300	400
SGDE608*	6	4	0.8	5	3.5	12	-	-	-	35	300	400
SGDE805	8	4	0.5	5	3.5	14	1.2	0.3	-	35	300	400
SGDE807C	8	4	0.7	5	3.5	14	1.2	-	0.5	35	300	400
SGDE808*	8	4	0.8	5	3.5	14	-	-	-	35	300	400
SGDE1005	10	4	0.5	5	3.5	16	1.2	0.3	-	35	300	400
SGDE1007C	10	4	0.7	5	3.5	16	1.2	-	0.5	35	300	400
SGDE1008*	10	4	0.8	5	3.5	16	-	-	-	35	300	400
SGDE1205	12	4	0.5	7	4	18	1.2	0.3	-	35	600	
SGDE1207C	12	4	0.7	7	4	18	1.2	-	0.5	35	600	
SGDE1208*	12	4	0.8	7	4	18	-	-	-	35	600	
SGDE1405	14	4	0.5	7	4	22	1.2	0.3	-	35	600	
SGDE1407C	14	4	0.7	7	4	22	1.2	-	0.5	35	600	
SGDE1408*	14	4	0.8	7	4	22	-	-	-	35	600	

Order example: (ITEM NUMBER) (L) - SGDE605300

\* *REQUIRES a blast of air after ejection of plastic part (see Technical Notes)*

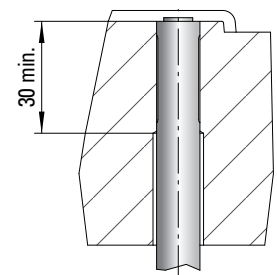
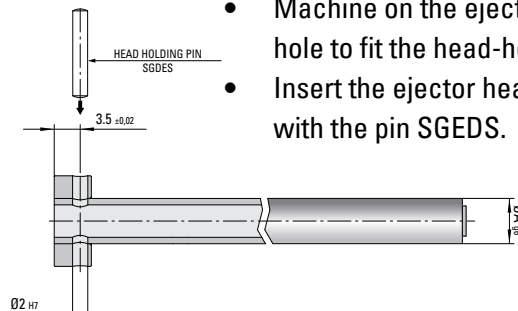
## GAS VENTING KEY



**SGDECH**

## ASSEMBLY

- Cut the ejector rod to the desired length.
- Machine on the ejector rod the hole to fit the head-holding pin.
- Insert the ejector head and fix it with the pin SGDES.

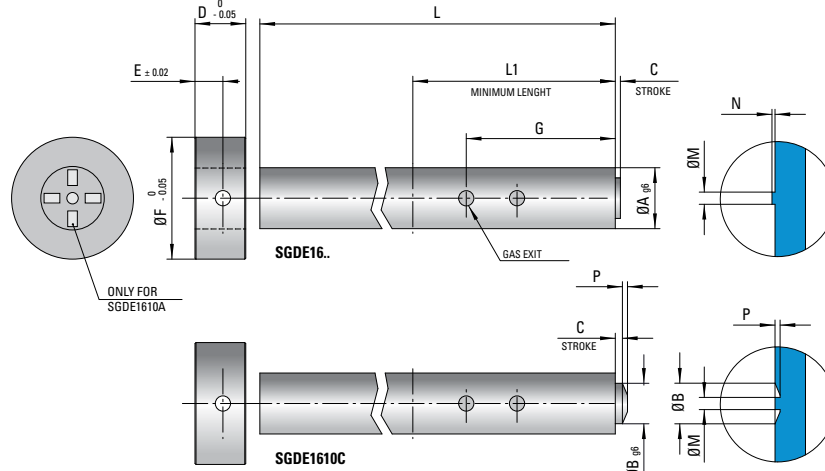


It is necessary to guide the ejector pin for at least 30mm.

Please see Technical Notes at the back of the document for additional information.



# GAS VENTING EJECTOR PIN

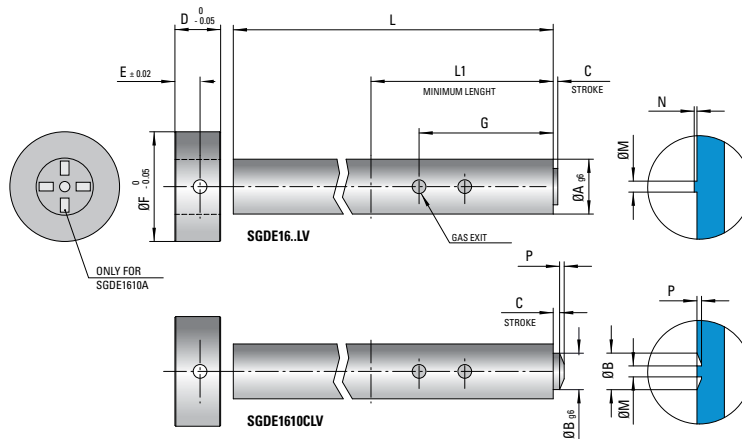


Mat. valve: 420SS  
Hardness: 50-52 HRC

Mat. ejector: H13  
Hardness: 1000/1100 HV

ITEM NUMBER	A	B	C	D	E	F	G	M	N	P	L1	L	SUITABLE FOR
SGDE1610	16	10	1	7	4	22	80	2	0.5	/	100	780	High Viscosity Materials Only
SGDE1610A	16	10	1	7	4	22	80	2	0.5	/	100	780	
SGDE1610C	16	10	1	7	4	22	80	2	/	0.5	100	780	
SGDE1615	16	10	1.5	7	4	22	80	/	/	/	100	780	
SGDE1610LV	16	10	1	7	4	22	80	1.2	0.5	/	100	780	High & Low Viscosity Materials
SGDE1610ALV	16	10	1	7	4	22	80	1.2	0.5	/	100	780	
SGDE1610CLV	16	10	1	7	4	22	80	1.2	/	0.5	100	780	
SGDE1615LV	16	10	1.5	7	4	22	80	/	/	/	100	780	

Order example: (ITEM NUMBER) (L) SGDE1610780

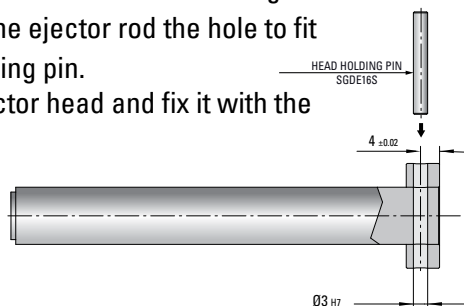


Mat. valve: 420SS  
Hardness: 50-52 HRC

Mat. ejector: H13  
Hardness: 1000/1100 HV

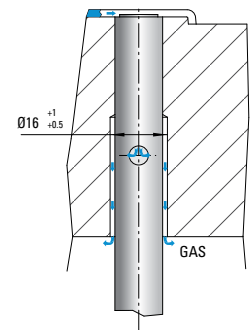
## ASSEMBLY

- Cut the ejector rod to the desired length
- Machine on the ejector rod the hole to fit the head-holding pin.
- Insert the ejector head and fix it with the pin SGEDS.



## VENTING HOLE POSITION

- Position the venting hole in the non-guided area of the ejector's seat



Please see Technical Notes at the back of the document for additional information.

# TECHNICAL NOTES

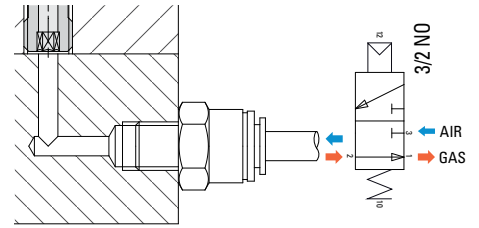
## \* VENTING VALVES

For a correct application of the venting valves

**SGD608/SGDE608F/SGDL608/SGDE608/SGDE808/SGDE1008/SGDE1208/SGDE1408**

it is necessary to inject an air blast after ejection of plastic part, the air will guarantee the valve to open every shot. Without air blast the valve could stay closed.

With a normally open 3/2 valve it is possible to use the gas venting channel also to inject the air blast.

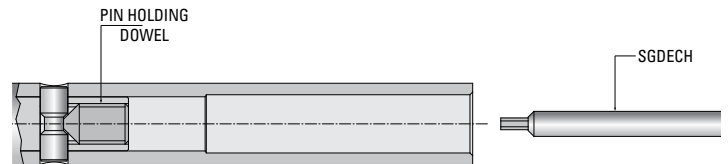


## CLEANING/MAINTENANCE

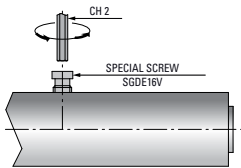
### SGDE6/8/10/12/14-Series

It is possible to disassemble the dynamic venting valve with the following procedure:

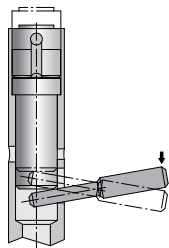
- Remove the head holding pin and the ejector head.
- Unscrew the internal dowel with the key SGDECH, remove the valve holding pin and extract the venting valve from ejector front side.



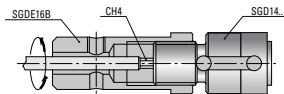
### SGDE16/6-Series



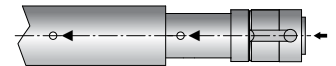
1- Remove the special screw SGDE16V using hexagonal key CH2



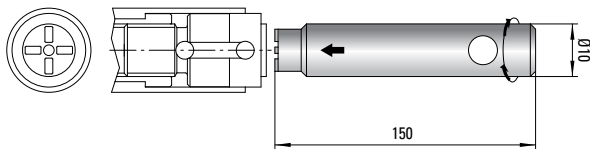
2- Insert a 3-4mm diameter pin in the slot and extract the valve



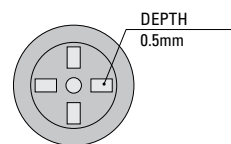
3- Clamp the bushing SGDE16B and unscrew the valve SGD14 using hexagonal key CH2



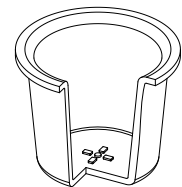
4- During assembly align reference marks for proper fit



Valve SGDE1610A/1610ALV can be screwed and unscrewed with special key CSSGDA



The top surface of valve pin SGDE1610A/1610ALV is machined to fit CSSGDA



The special machining creates four protrusions 0.5mm thick on the injected part

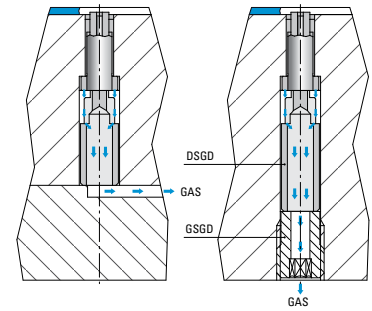
# TECHNICAL NOTES

## SGD6

The valve type SGD6 has to be fixed into the mold insert from the back side. Spacer DSGD and the dowel code GSGD can make this application easier.

The spacer is specially designed to collect the gases from the valve toward a central hole that communicates with the open atmosphere. It is possible to machine the spacer in order to reach the desired length.

The dowel allows to fix the spacer and the valve and collects the gases into the central hole.

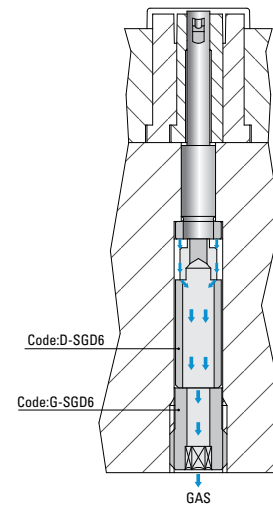


## SGDL

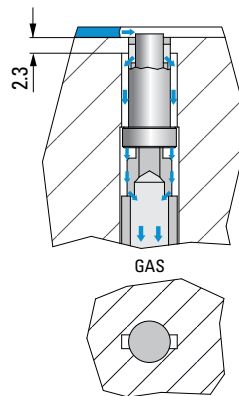
The valve type SGDL has to be fixed into the mold insert from the back side and the valve needle has to stick out from the mold surface for a dimension equal to the stroke "C". The spacer code DSGD... and the dowel code GSGD...can make this application easier.

The spacer is specially designed to collect the gases from the valve toward a central hole that communicates with the open atmosphere. It is possible to machine the spacer in order to reach the desired length.

The dowel allows to fix the spacer and the valve and collects the gases into the central hole.



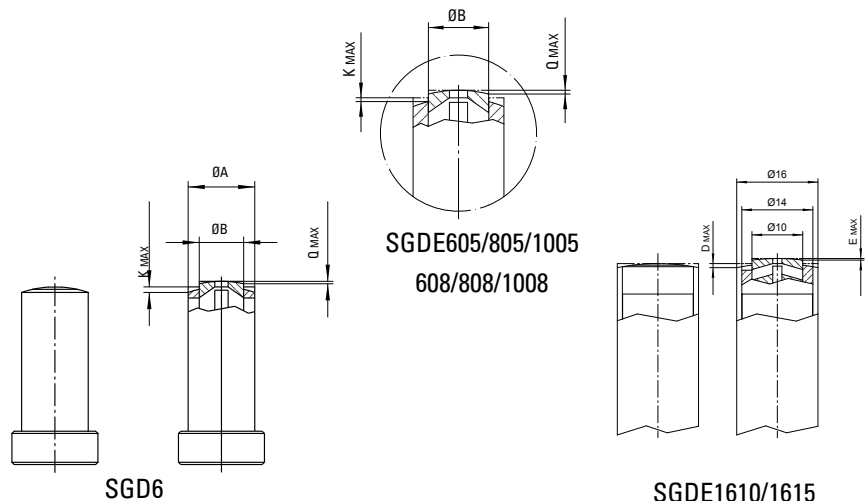
Some polymeric materials produce remarkable gas volume during melting process. Oily gas deposits can pile up and obstruct the gas venting channels. It is possible to machine extra gas venting channel in the mold as shown in the picture to improve valve performance.



## VALVE SHAPING

The SGD6/SGDE1610/SGDE1615 valves can be shaped within the maximum limit shown below.

ITEM NUMBER	A	B	K	Q
SGD605	6	4	0.5	0.25
SGD608	6	4	0.5	0.25
SGDE605/805/1005		4	0.5	0.25
SGDE608/808/1008		4	0.25	0.25
SGDE1610		4	0.5	0.25
SGDE1615		4	0.25	0.25



SGD6

SGDE1610/1615

**With tens of thousands of products to choose from, DME is your one-stop shop for everything molding.** From complex undercuts solutions and plate control to standard pins, bushings and interlocks, the DME line of mold components will help you build or rebuild your mold base inside out, top to bottom. Industrial Supplies, Mold Bases, MUD Quick-Change, Control Systems, and Hot Runner solutions round out our extensive offering to truly be your one-stop shop.



**World Headquarters**

**DME Company LLC**

29111 Stephenson Highway  
Madison Heights, MI 48071

**800-626-6653** toll-free tel

**248-398-6000** tel

**888-808-4363** toll-free fax

[www.dme.net](http://www.dme.net) web

dme@dme.net e-mail

**DME of Canada Ltd.**

A-99 First Gulf Blvd.  
Brampton, Ontario  
Canada L6W 4T8

**800-387-6600** toll-free tel

**905-677-6370** tel

**800-461-9965** toll-free fax

dme\_canada@dme.net e-mail

**DME Mexico / South America**

Circuito el Marques Notre, No.55  
Parque Industrial El Marqués  
El Marqués, Querétaro, CP 76246

**52.442.713.5666** tel

dme\_mexico@dme.net

