



Single-Valve-Gate Drive Type  
64.90. in application with  
Free-Flow nozzle type 61.950.

Single-Valve-Gate Drive Type  
64.90. in application with  
Free-Flow Flat nozzle type 61.940.

## PRODUCT PERFORMANCE

- Improved part quality by the use of tension-free injection molding technology
- No divided melt flow in the hot runner system
- No visible melt junction in the plastic parts
- Fast color change
- Calculable pressure decrease
- Exchangeable spare and wear parts

# Valve Gate Free-Flow-System

For tension-, division-, stress- and orientation-free injection molding in valve-gate applications.

## DEMAND

The plastic material needs to pass through the hot runner system without any division of the melt until the injection point is reached.

The differences in melt flow behavior and tension within transparent plastic parts can be visualized by means of two pieces of polarization film.

## ADVANTAGE

Tension-free injection molding  
Increased durability of the plastic parts  
Fast color change  
Rheological balance  
No sharp transitions and edges  
Almost invisible injection point  
Homogeneous filling  
No visible melt junction in the plastic parts

## BENEFIT

Increased durability  
Cost saving  
Reduced energy demand  
No cracks  
Optical high-end quality  
Increased security-  
(No danger of injury in assembly)

## APPLICATION AREA FOR FREE-FLOW NOZZLES

Valve gate applications, especially such with high-end quality plastic parts.

### Optical parts

Looking glasses

Lamps (i. e. automotive lamps) LEDs

### Packaging:

high-end cosmetic packaging for example with metallic flitter  
PET - Applications

### Safety products

Transportation containers  
Caps and closures  
Pressure reservoir

### Medical and laboratory

Test and graduated vessels  
Syringes  
Pipettes and Cuvettes

Appropriate for the use of the following materials  
PC

PMMA

SAN

PS

PP

GRILAMID®(PA12, trans. PA12) CA

## PRACTICAL EXAMPLES

### DIVIDED MELT FLOW

Needle standing within the melt channel

Heterogenic distribution of tension within the plastic part.

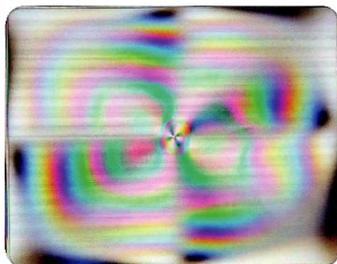
### FREE-MELT

Needle in free-flow position  
Homogeneous distribution of tension in free-melt application.

### FREE-MELT WITH METALLIC PIGMENTS (from the same mold)

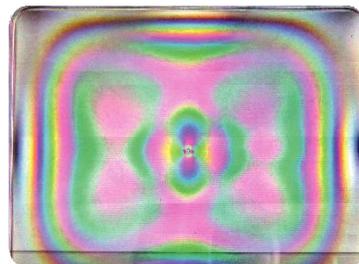
For cosmetic industries metallic flitter is often mixed into the resin  
Those additives help visualizing every melt-splitting.

#### ① Standard



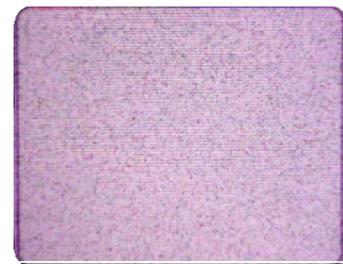
Cover: 1-fold mold  
Material: PC, Makrolon 2458

#### ② Tension-free



Needle injection diameter: 0,8 mm  
Part weight: 21 g per item

#### ③ Free-Flow-Demonstration



Filling of parts without orientation of the material  
(visible by using effect pigments)