

# CARTRIDGE HEATERS

**Ω NIBE**  
ELEMENT

**G**LASS **Q**UALITY

special design



Quality, which warms you.

## SPECIAL CARTRIDGE HEATERS

### GQ LINE SEALED BY VITREOUS CERAMIC

Cartridge heaters with maximal protection against humidity. They have ends sealed by special material based on vitreous ceramic developed for this purpose under unique technology procedure.



# G LASS Q UALITY

## MAIN TECHNICAL CHARACTERISTICS OF GLASS SEALING

Operating temperature conditions:	400°C
Speed of heating up and cooling down is limited to:	100K/min.
Maximal environment humidity	100%

## COMPARISON WITH OTHER SEALING MATERIALS

CHARACTERISTIC	SILICON	CERAMIC CEMENT	VITREOUS CERAMIC
Sealing against humidity	good	bad	100%
Mechanical properties	soft, low strenght	good	fragile
Immunity against fast temperature changes	very good	very good	up to 100 K/min.
Operating temperature	up to 270°C	up to 700°C	up to 400°C
Operation of element after overreaching of maximal temperature	damaged sealing working cartridge	worse sealing parametres, working cartridge	shortage between pins or pin and tube
Sealing after overheating and cooling down	bad after damaged sealing	bad as before	very good as before

Notes: any outlets insulations must be above glass because of maximal tightness.  
These cartridges can not work with terminal part under water.