

# GRUNDFOS NKG PUMPS

SOLUTIONS FOR CHALLENGING MEDIAS

The double shaft seal solutions are especially designed for leakage free operation where hazardous or aggressive liquids are being pumped.

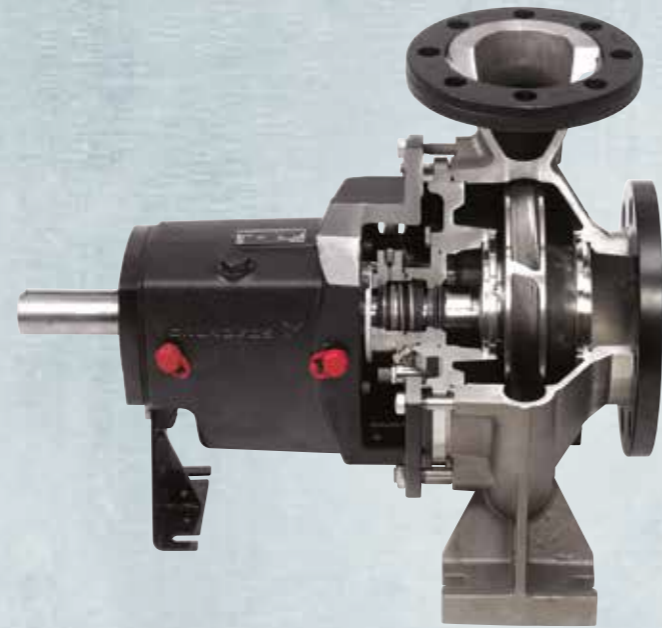
# NKG double shaft seal variants

To ensure safe handling of aggressive or hazardous liquids, Grundfos offers pumps with the following shaft seal solutions:

- Tandem seal arrangement and equipment to provide flushing or quench liquid control
- Back-to-back seal arrangement and equipment to provide barrier liquid control

The dedicated shaft seal variants make the NKG pumps suitable for a variety of demanding applications, including:

- Chemical industry
- Pharmaceutical industry
- Petrochemical industry
- Refineries
- Distilling plants
- Paint industry
- Mining
- Off-shore and maritime applications



The gland packing (Stuffing box) designs are designed for pumping media where shaft seals are not suitable, due special specifications in the media properties.

# NK/NKG Stuffing box (Gland packing) variants.

To be able to handle challenging medias Grundfos offers the stuffing box (gland packing) variant on Cast iron, Stainless steel and Duplex pumps.

- The stuffing box variants make the NK and NKG pumps suitable for various applications where single shaft seal pumps or double shaft seal pump solutions are not either recommendable or suitable.

The dedicated stuffing box variants are suitable for a variety of applications including:

- Mining
- Process industry
- Agriculture, irrigation
- Water supply
- Pressure boosting
- Pumping in rural areas where service with std parts is a challenge



## Back-to-back

Solution	Description
<b>Double shaft seal Back-to-back</b>	For applications involving hazardous, flammable, or highly abrasive liquids, a double shaft seal fitted back to back in a pressure chamber is available. The pressure in the chamber must be higher than the pump pressure to prevent leakage.  The barrier fluid pressure can be supplied by either a Grundfos dosing pump arrangement (up to 16 bar) or an intensifier for pressure requirements up to 25 bar.

## Tandem

Solution	Description
<b>Double shaft seal Tandem</b>	Special double shaft seals are available for applications involving a high risk of crystallisation (e.g. sugar solutions) or hardening (e.g. oil or paint) as well as pumps handling vacuum.  Grundfos offers a quenching fluid system for shaft seal flushing.

## Cartridge

Solution	Description
<b>Double shaft seal Tandem or back-to-back</b>	For the applications mentioned above, a cartridge seal operating either as a tandem seal or as a back-to-back seal is also available.  Benefits include: Service-friendly, compact solution.  Reduced downtime for maintenance.

## SNE

Solution	Description
<b>Stuffing box (Gland packing) SNE</b>	For applications involving medias containing particles/impurities. Available for 10/16 bar

## SNO - with distribution ring and int. recirculation.

Solution	Description
<b>Stuffing box (Gland packing) SNO</b>	For applications involving medias containing particles/impurities, where there is a need for cooling down the sealing are due to higher temperatures/pressures. Available for 10/16 bar

## SNF - with dist. ring and external recirculation.

Solution	Description
<b>Stuffing box (Gland packing) SNF</b>	For applications involving medias containing particles/impurities, where there is a need for cooling down the sealing are due to higher temperatures/pressures. Available for 10/16 bar

The above shaft seal variants for NKG pumps represent only a fragment of the total shaft seal range offered by Grundfos. Please contact your local Grundfos sales representative for more information.

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## MAIN APPLICATION AREAS:

### DOUBLE SEAL SOLUTIONS:

- › Chemical industry
- › Pharmaceutical industry
- › Petrochemical industry
- › Refineries
- › Distilling plants
- › Paint industry
- › Mining
- › Off-shore and maritime applications

### SUFFING BOX (GLAND PACKING ) SOLUTIONS:

- › Mining
- › Process industry
- › Agriculture, irrigation
- › Water supply
- › Pressure boosting
- › Pumping in rural areas where service with std parts is a challenge