



**DICKOW  
PUMPEN**



**Standard Pumps acc. to DIN EN 733  
Type NKL**

## GENERAL

The DICKOW NKL-Standard pumps acc. to DIN EN 733 are single stage, single flow volute casing pumps of horizontal design, with end suction flange and center-lined vertical discharge flange. The complete bearing bracket, including intermediate casing with shaft sealing and impeller, forms a back-pull-out unit.

Outline dimensions and performance range comply with the requirements of DIN EN 733. The performance range is subdivided such that the available pump sizes grant best efficiency at all service conditions.

## DESIGN FEATURES

### Volute casing, Flange design

The one-piece volute casing is provided with integrally cast feet for mounting on the base plate. Suction- and discharge flanges are in accordance with DIN 2532 / PN 10 respectively DIN 2533 / PN 16.

### Impellers

NKL-pumps have closed impellers, constructed as single piece castings, hydraulically balanced by throttle gap and relief bores to keep occurring axial loads to a minimum. All impellers are dynamically balanced acc. to DIN ISO 1940 / part 1 with a minimum balance grade of G 6.3 that grants a smooth run of the pump free of vibrations. The impellers are keyed to the pump shaft in overhung position and are secured by shaft nuts.

### Wear rings

NKL-pumps of standard design have no wear rings provided. But the construction of intermediate and volute casing allows remachining and a subsequent installation of wear rings in case of worn out casings or impellers.

## FIELD OF APPLICATION

NKL-Pumps are applicable as circulation pumps in communal areas, the industry and the agriculture.

They are suitable for handling cooling water, condensate, hot water, washing lyes, solvents, hydrocarbons and similar non-volatile products.

### Pump shafts

The pump shafts are capable for receiving the driving power transmission. The shaft stiffness allows only minor deflection over the operating range of the pump and ensures high reliability of the unit.

The pump shafts are manufactured of corrosion resistant material. Pumps with balanced mechanical seals are provided with shaft sleeves.

### Bearings

The pump shaft is carried in generously dimensioned grease lubricated antifriction bearings, located outside the pumped liquid. Nipples for regreasing are provided. Oil lubrication with constant level oiler is available as an option.

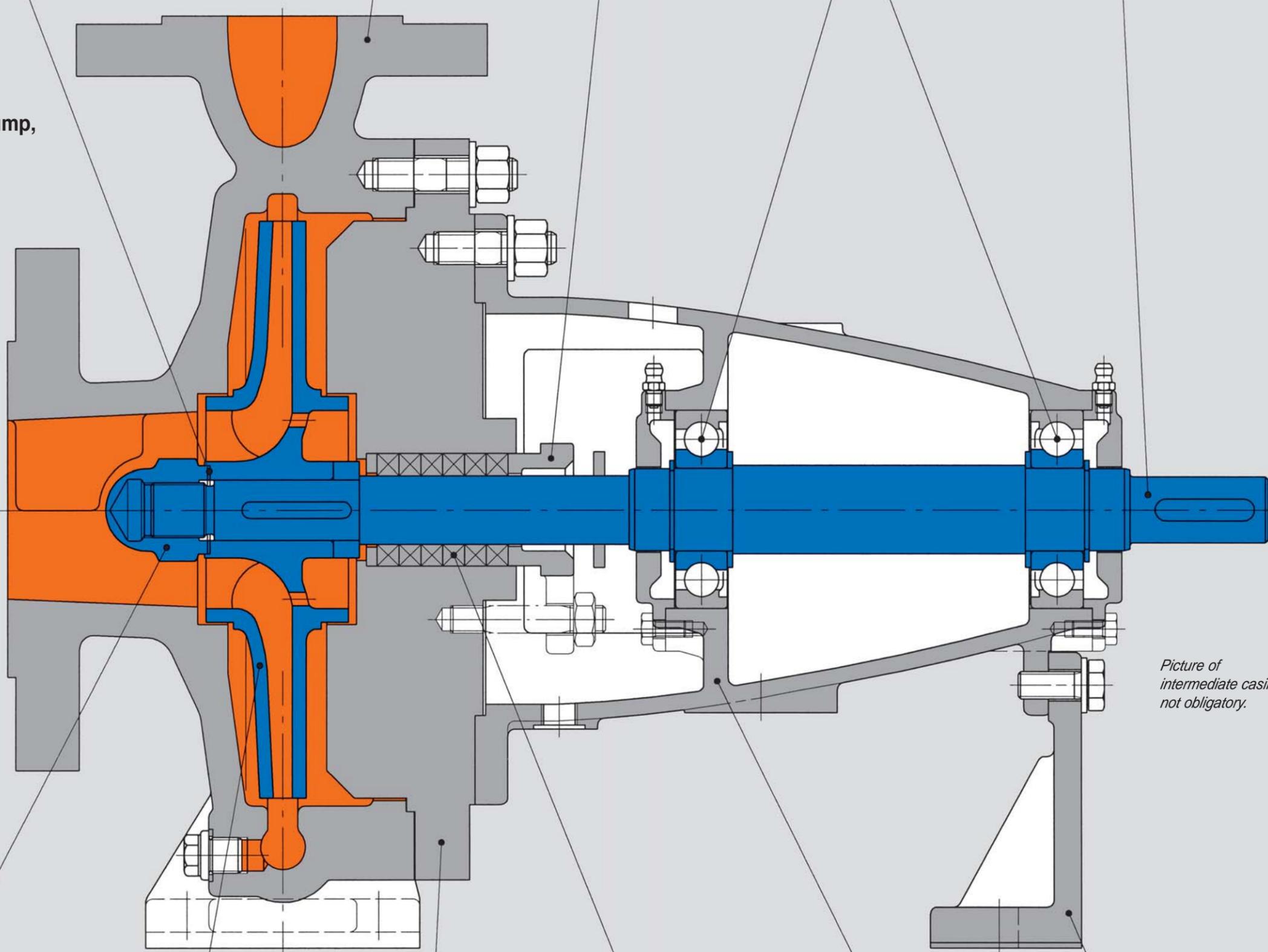
The average service life of the bearings reaches 16000 operating hours.

### Standard materials :

Volute casing:	GGG40.3
Intermediate casing:	GGG40.3 / St37
Impeller:	dia < 250 mm – GG25 dia > 250 mm – GGG40.3
Shaft:	1.4021
Bearing bracket:	GG25

**Standard Pump,  
Type NKL,  
design "K"**

gasket      volute casing      gland packing      ball bearing      pump shaft

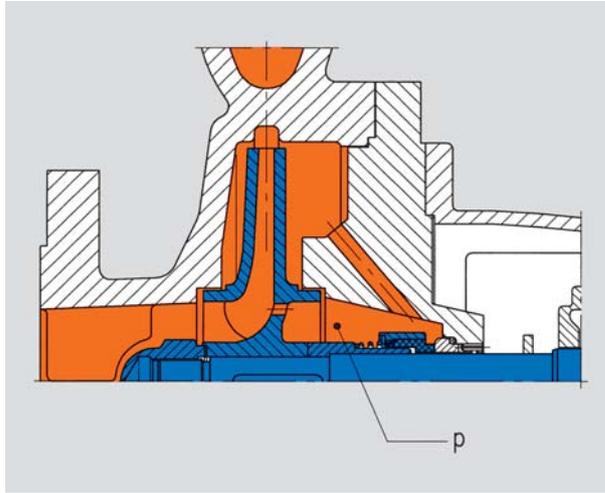


*Picture of  
intermediate casing  
not obligatory.*

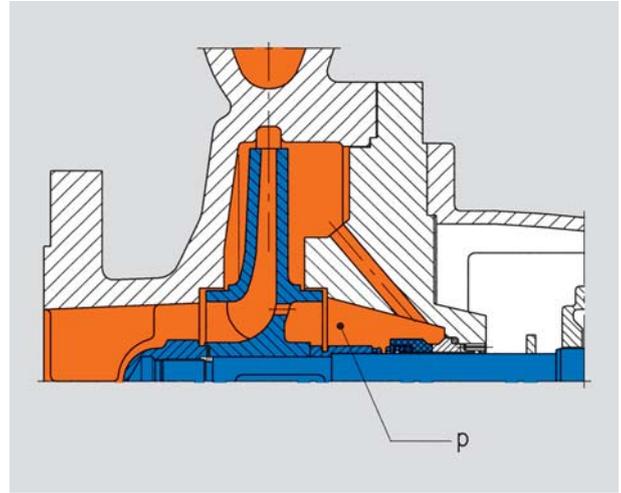
impeller nut      closed impeller      intermediate casing      stuffing box      bearing bracket      support foot

## Mechanical seals

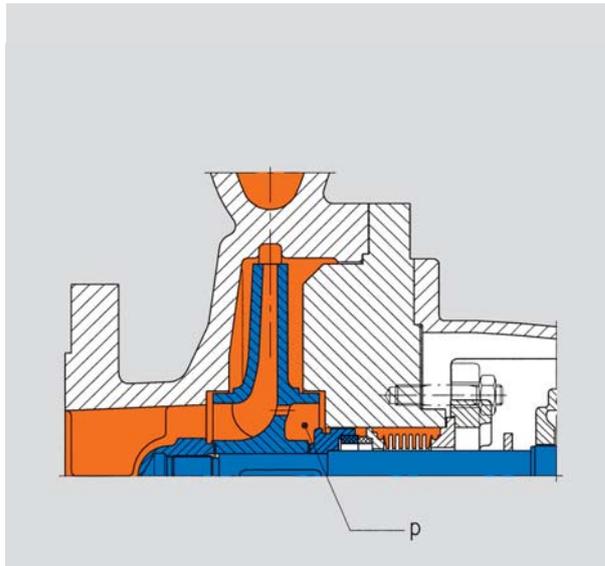
Considering the different applications, the NKL-pumps can be fitted with single acting mechanical seals as follows:



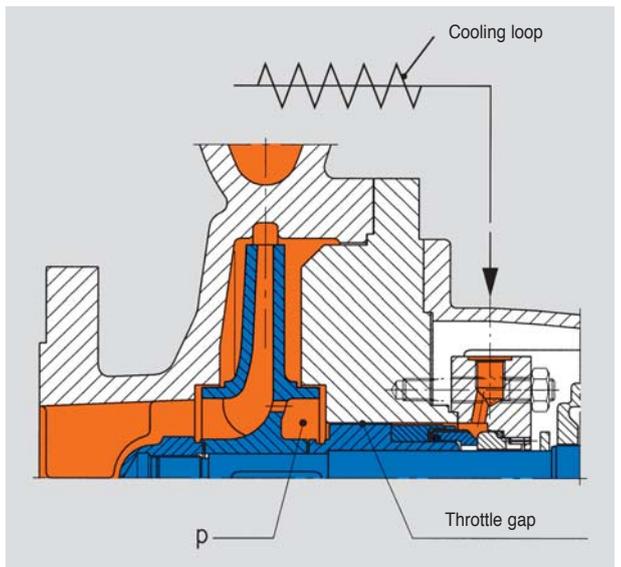
Unbalanced standard mechanical seal, design "R".  
Faces Carbon/SiC.  
Maximum allowable pressure  $p = 7$  bar.  
Maximum temperature  $140^{\circ}\text{C}$ .



Balanced standard mechanical seal, design "Re".  
Faces Carbon/SiC.  
Maximum allowable pressure  $p = 16$  bar.  
Maximum temperature  $140^{\circ}\text{C}$ .



Metal bellows mechanical seal, design "N6".  
Faces Carbon/SiC.  
Maximum allowable pressure  $p = 10$  bar.  
Maximum temperature  $150^{\circ}\text{C}$ .



Balanced standard mechanical seal, design "Ge"  
for hot water service with external circulation  
from discharge to mechanical seal,  
through air cooled cooling loop and throttle gap.  
Faces Carbon/SiC.  
Maximum allowable pressure  $p = 16$  bar.  
Maximum temperature  $180^{\circ}\text{C}$ .

Due to technical reasons, the NKL-Pumps cannot be fitted with double acting mechanical seals.

*Pictures of intermediate casings not obligatory !*

