

# GEARED AGITATORS

We manufacture robust geared agitator solutions featured with helical geared, worm geared, parallel shaft geared, helical bevel geared as well as variable speed geared drives to match every application in the materials processing industries, such as, the chemical, pharmaceutical, biotechnological, paper and pulp industries, as well as in water and wastewater treatment.



**G E P P E R T**  
INNOVATIVE MIXING SOLUTIONS.

## GRS

### Geared agitator with helical geared drive

The GRS geared agitator is equipped with a helical geared drive suited for a wide range of applications thanks to shaft lengths of up to 2,000 mm and drive ratings of up to 7.5 kW. The GRS series agitators have a standard output speed of 10 to 500 rpm.

The shaft mounting options available include sleeve coupling, flange coupling, quick-change coupling or precision-change coupling. The agitator shafts are balanced for concentric run after assembly of the mixer.

- ① Upon request, we supply the GRS series with frequency controlled drive.
- ① Depending on the specific mixing task, the GRS can be supplied with matching mixing elements and various seals.
- ① Type test certificate for explosive zone 0.



GRS equipped with pitched blade turbine

#### Technical data:

Product type [GRS]	Power [kW]	Speed [approx. rpm]	Shaft [d x Lmax in mm]	Impeller [mm]	Height [approx. mm]	Flange dimensions [A/LK/Z; n x Ø S in mm]	Weight [approx. in kg]
GRS 300/0.25	0.25	300	20 x 1,200	250	450	140/115/95; 4 x 9	20
GRS 300/0.37	0.37	300	20 x 1,200	275	450	140/115/95; 4 x 9	22
GRS 300/0.55	0.55	300	20 x 1,200	300	500	140/115/95; 4 x 9	25
GRS 300/0.75	0.75	300	20 x 1,200	325	500	140/115/95; 4 x 9	27
GRS 300/1.1	1.1	300	20 x 1,200	350	550	160/130/110; 4 x 9	32
GRS 300/1.5	1.5	300	25 x 1,500	375	550	160/130/110; 4 x 9	35
GRS 300/2.2	2.2	300	30 x 1,800	400	650	200/165/130; 4 x 11	45
GRS 300/3.0	3	300	30 x 1,800	425	650	200/165/130; 4 x 11	50

Other solutions for this series upon request.

# GRF

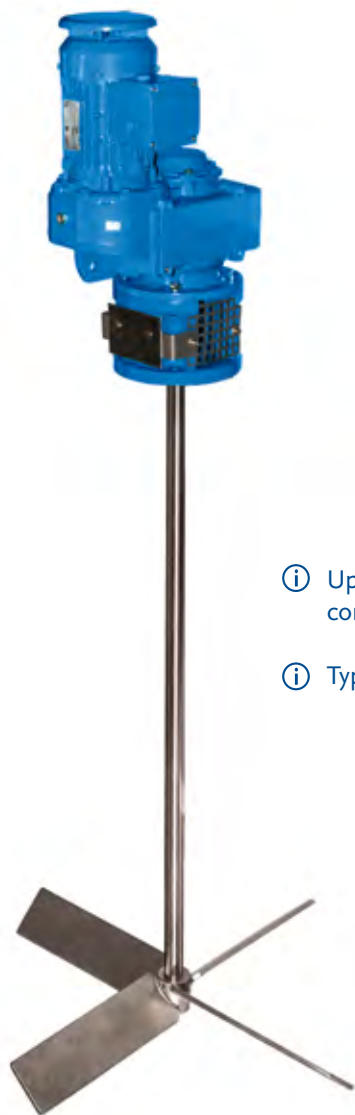
## Geared agitator with parallel shaft geared drive

The agitator shaft of the GRF series geared agitator is directly mounted in the hollow shaft of the parallel shaft geared drive. Thus, no additional bearing housing is necessary. The gear bearings are adequately dimensioned and fully adapted to the requirements.

The GRF series is suited for a wide range of applications thanks to shaft lengths of up to 6,000 mm and drive ratings of up to 75.0 kW. It has a standard output speed of 1 to 400 rpm. The agitator shafts are balanced for concentric run after assembly of the mixer.



GRF equipped with pitched blade turbine and stabilization seal




GRF equipped with pitched blade turbine

- ① Upon request, we supply the GRF series with frequency controlled drive that has drive ratings of up to 7.5 kW.
- ① Type test certificate for explosive zone 0.

## Technical data:

Product type [GRF]	Power [kW]	Speed [approx. rpm]	Shaft [d x Lmax in mm]	Impeller [mm]	Height [approx. mm]	Flange dimensions [A/LK/Z; n x Ø S in mm]	Weight [approx. in kg]
GRF 80/0.12	0.12	80	30 x 1,800	450	400	140/115/95; 4 x 9	25
GRF 80/0.25	0.25	80	30 x 1,800	550	400	140/115/95; 4 x 9	30
GRF 80/0.37	0.37	80	35 x 2,000	650	400	200/165/130; 4 x 11	40
GRF 80/0.55	0.55	80	35 x 2,000	700	415	200/165/130; 4 x 11	45
GRF 80/0.75	0.75	80	35 x 2,000	750	415	200/165/130; 4 x 11	48
GRF 80/1.1	1.10	80	40 x 2,400	800	480	250/215/180; 4 x 14	75
GRF 80/1.5	1.50	80	40 x 2,400	850	480	250/215/180; 4 x 14	80
GRF 80/2.2	2.20	80	50 x 3,000	900	560	250/215/180; 4 x 14	90
GRF 80/3.0	3.00	80	50 x 3,000	950	560	250/215/180; 4 x 14	95
GRF 80/4.0	4.00	80	60 x 3,600	1,000	600	300/265/230; 4 x 14	140
GRF 80/5.5	5.50	80	60 x 3,600	1,100	660	300/265/230; 4 x 14	160
GRF 80/7.5	7.50	80	70 x 4,200	1,200	700	350/300/250; 4 x 18	220
GRF 80/11.0	11.00	80	70 x 4,200	1,400	750	350/300/250; 4 x 18	260
GRF 200/0.12	0.12	200	30 x 1,800	300	400	140/115/95; 4 x 9	25
GRF 200/0.25	0.25	200	30 x 1,800	350	400	140/115/95; 4 x 9	30
GRF 200/0.37	0.37	200	35 x 2,000	350	400	200/165/130; 4 x 11	40
GRF 200/0.55	0.55	200	35 x 2,000	375	415	200/165/130; 4 x 11	45
GRF 200/0.75	0.75	200	35 x 2,000	400	415	200/165/130; 4 x 11	48
GRF 200/1.1	1.10	200	40 x 2,400	425	500	250/215/180; 4 x 14	75
GRF 200/1.5	1.50	200	40 x 2,400	450	500	250/215/180; 4 x 14	80
GRF 220/2.2	2.20	220	50 x 3,000	475	560	250/215/180; 4 x 14	90
GRF 220/3.0	3.00	220	50 x 3,000	500	560	250/215/180; 4 x 14	95
GRF 200/4.0	4.00	200	60 x 3,600	550	600	300/265/230; 4 x 14	140
GRF 200/5.5	5.50	200	60 x 3,600	600	680	300/265/230; 4 x 14	160
GRF 200/7.5	7.50	200	70 x 4,200	650	700	350/300/250; 4 x 18	200
GRF 200/11.0	11.00	200	70 x 4,200	750	750	350/300/250; 4 x 18	260

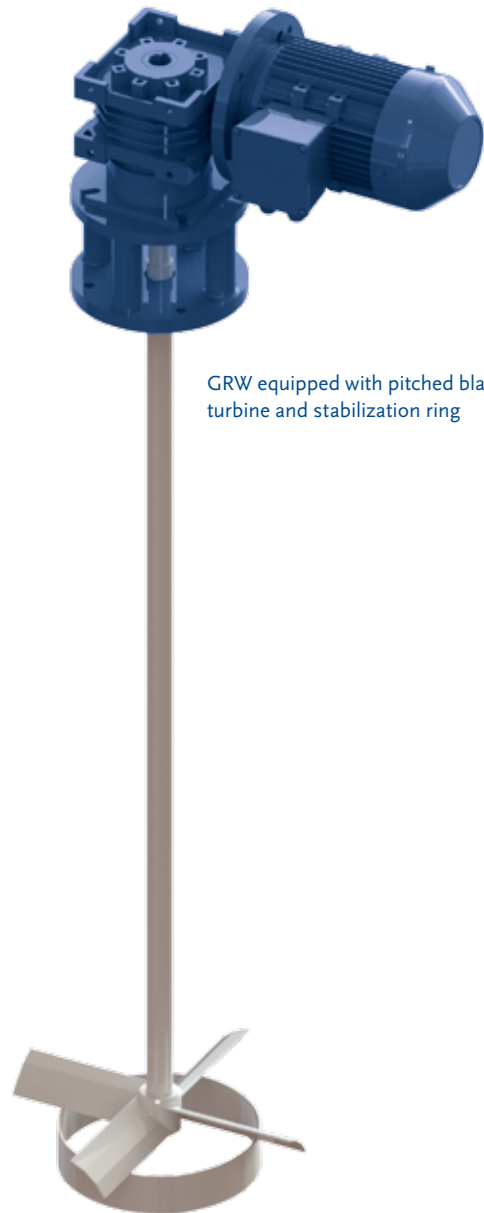
 Individually tailored solutions are technically possible up to max. 75 kW. Other shaft lengths for this series also upon request.

# GRW

## Geared agitator with worm geared drive

The GRW series is suited for a wide range of applications thanks to shaft lengths of up to 3,000 mm and drive ratings of up to 5.5 kW. It has a standard output speed of between 10 and 200 rpm. Low installation height thanks to horizontal position of the drive.

The agitator shaft of the GRW series geared agitator is directly mounted in the hollow shaft of the worm geared drive. Additional flanged or clamp couplings can be implemented upon request. The agitator shafts are balanced for concentric run after assembly of the mixer.



GRW equipped with pitched blade turbine and stabilization ring

- ① According to the specific mixing task, the GRW can be supplied with matching mixing elements and various seals.
- ① Upon request, we supply the GRW series with frequency controlled drives.

### Technical data:

Product type [GRW]	Power [kW]	Speed [approx. rpm]	Shaft [d x Lmax in mm]	Height [approx. mm]	Flange dimensions [A/LK/Z; n x Ø S in mm]	Weight [approx. in kg]
GRW .../0.12	0.12	30/40/70/140/200	20 x 1,200	150	110/87/60; 4 x 9	10
GRW .../0.37	0.37		30 x 1,800	170	180/150/115; 4 x 11	20
GRW .../0.55	0.55		30 x 1,800	200	180/150/115; 4 x 11	25
GRW .../0.75	0.75		30 x 1,800	200	180/150/115; 4 x 11	30
GRW .../1.5	1.50	35/70/140/200	40 x 2,400	250	210/176/152 ; 4 x 14	40
GRW .../2.2	2.20		40 x 2,400	300	280/230/170; 4 x 14	65
GRW .../3.0	3.00		40 x 2,400	300	280/230/170; 4 x 14	75
GRW .../4.0	4.00		50 x 3,000	350	320/255/180; 4 x 18	130
GRW .../5.5	5.50		50 x 3,000	350	320/255/180; 4 x 18	150

Other solutions for this series upon request.

## GRK

### Geared agitator with helical bevel geared drive

The GRK series is a geared agitator with helical bevel geared drives suited for a wide range of applications due to its low installation height. This low installation height can be achieved thanks to horizontal position of the drive.

The agitator shaft of the GRK series is directly mounted in the hollow shaft of the gear and, upon request, this agitator shaft can be divided by flanged coupling. After assembly of the mixer, the agitator shafts are balanced for concentric run.

The GRK series features shaft lengths of up to 6,000 mm and drive ratings of up to 75.0 kW. It has a standard output speed of 1 to 250 rpm.



- ① According to the specific mixing task, the GRK series can be supplied with matching mixing elements and various seals.
- ① Upon request, we supply the GRK series with frequency controlled drives that have drive ratings of up to 7.5 kW.
- ① Type test certificate for explosive zone 0.
- ① Individually tailored solutions for this series upon request.



GRK equipped with pitched blade turbine and stabilization ring

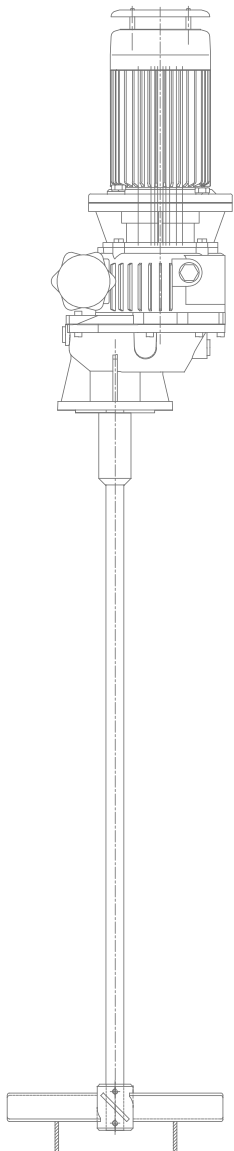
# GRV

## Geared agitator with variable speed gear unit

The GRV series can be used in versatile manner. It is equipped with a mechanically variable speed variation drive with drive ratings of up to 11.0 kW. Furthermore it can be supplied with geared drives that have a standard output speed of between 1 and 1,750 rpm.

The speed is adjustable with a hand wheel. The agitator shaft of the GRV series geared agitator is directly mounted on the shaft of the mechanical speed variator or with additional speed reduction (all before mentioned solutions possible).

The agitator shafts are balanced for concentric run after assembly of the mixer.



GRV equipped with pitched blade impeller

- ① According to the specific mixing task, the GRV series can be supplied with matching mixing elements and various seals.
- ① Solutions for this series upon request.



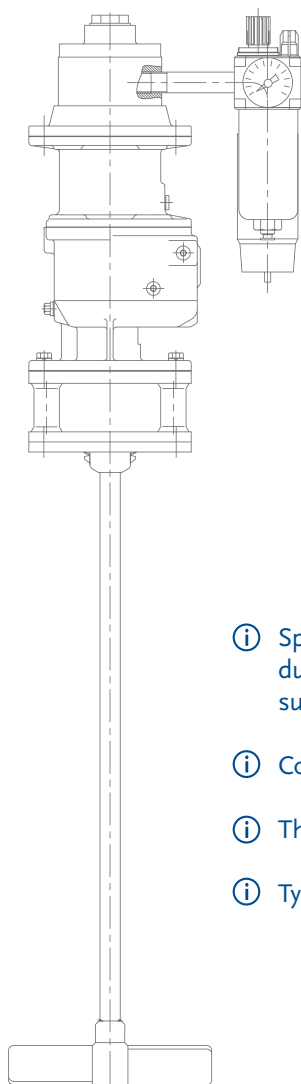
GRV equipped with propeller

## GRP

### Pneumatic agitator

The GRP is a pneumatic agitator equipped with either a helical geared drive or a worm geared drive. It is used for homogenizing, dispersing, emulsifying and suspending of low- and medium viscosity materials in small containers. The agitator shaft is directly mounted on the shaft journal.

Elastic operation, in other words: The speed of the agitator adapts to the viscosity of the media being mixed. Compact and easy-to-maintain construction as well as low weight allows an easy handling.



- ① Speed is sensitively and continuously adjustable, smooth start, insensitive to vapor, dust and smoke. Compressed air keeps all moving parts clean. Insensitive to heat, suitable for high ambient temperatures.
- ① Compressed air expanding in the air engine cools the agitator drive.
- ① The pneumatic agitators are explosion proof and overload proof until standstill.
- ① Type test certificate for explosive zone 0.

#### Technical data:

Product type [GRP]	Viscosity [max. mPas]	Power [max. kW]	Power input [max. kW]	Speed [approx. rpm]	Compressed air supply [inch]	Shaft [d x L max in mm]	Impeller [mm]	Height [approx. mm]	Flange dimensions [A/LK/Z; n x Ø S in mm]	Weight [approx. in kg]
GRP 600/1.0	5,000	1	0.5	60 - 600	1/4	25 x 1,200	200	280	160/130/110; 4 x 9	18
GRP 600/2.5	5,000	2.5	1.0	60 - 600	1/2	25 x 1,200	275	360	160/130/110; 4 x 9	28
GRP 400/1.0	2,000	1	0.5	40 - 400	1/4	30 x 1,200	200	280	160/130/110; 4 x 9	18
GRP 400/2.5	2,000	2.5	1.0	40 - 400	1/2	30 x 1,200	275	360	160/130/110; 4 x 9	28

Other solutions for this series upon request.



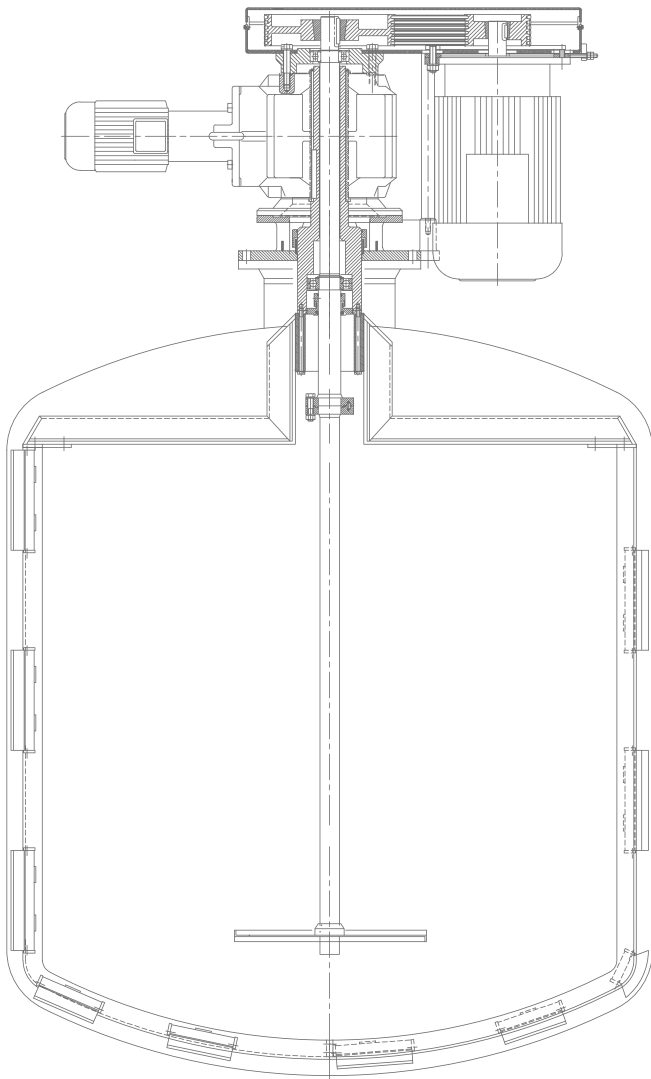
# KRK

## Coaxial agitator

KRK coaxial agitator features two different impeller systems for parallel mixing. The KRK has two interdependent agitator shafts with a different number of revolutions that move in opposite directions. The faster agitator shaft is supported in the slower hollow shaft of the geared mixing unit.



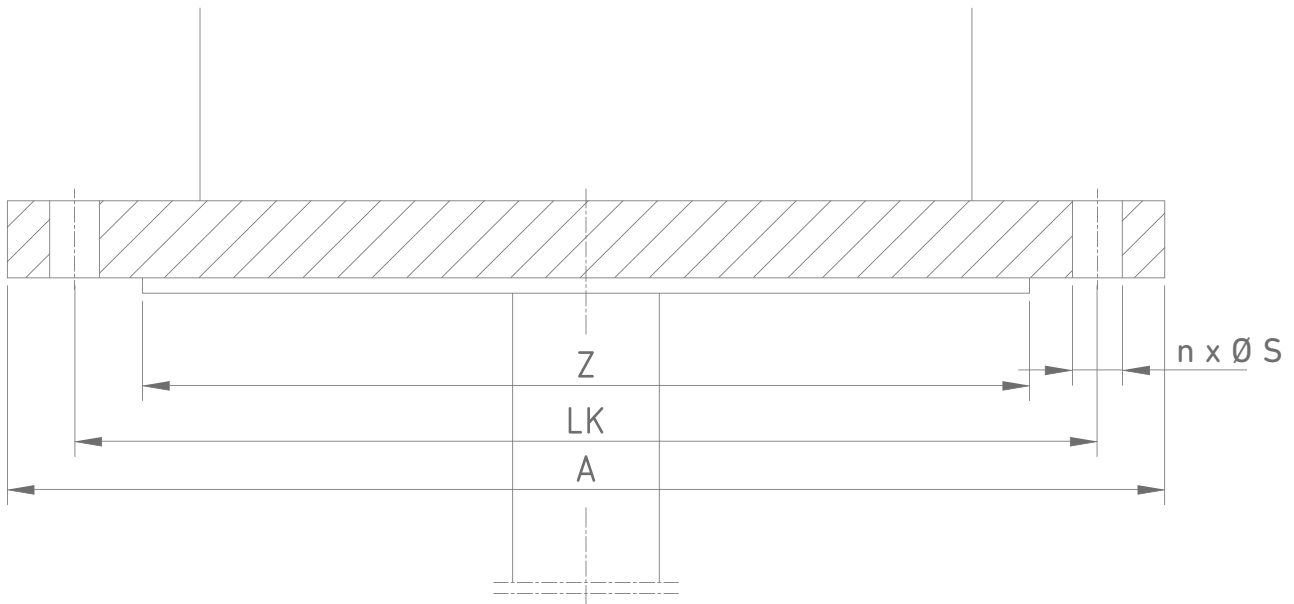
KRK coaxial agitator with dissolver disc and anchor



- ① The KRK series is primary suitable for the dispersing of highly viscous media. The heat transfer is promoted.
- ① Explosion-proof series certified to ATEX Directive 2014/34/EU zone 0 and zone 1.
- ① Individually tailored solutions for this series upon request.

# FLANGE DIMENSIONS

Explanation of the flange dimensions



# EQUIPMENT OPTIONS

At Geppert Rührtechnik we are happy to provide you with competent advice regarding the mixing elements, the wetted parts, and the seals that fit your individual mixing task

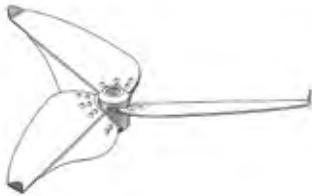


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# MIXING ELEMENTS

Our agitators can be combined with all mixing elements that fit your individual mixing task.

## Geppert mixing elements:



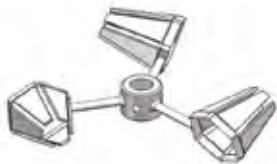
gLX-mixer



gCP-mixer



gHM-mixer

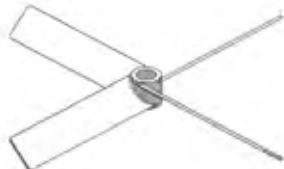


Hexagonal mixer /  
Spiral mixer

## Standard mixing elements:



Six-bladed rushton  
impeller



Pitched blade  
turbine



Propeller



Anchor



Segmental helical  
ribbon impeller



Disperser disc



Trapezoid mixer

### Special mixing elements:



Multi-stage counter-flow impeller



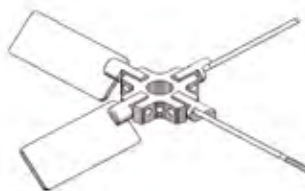
Interacting MSC-impeller



V-impeller



Folding propeller  
small



Folding propeller  
big

## WETTED PARTS

Depending on the reactor process and operating mode, a range of materials are available for the wetted parts.

Stainless steels: 1.4571, 1.4404, 1.4301, 1.4462, 1.4539, Hastelloy

Special metals: Titanium, Tantalum, Zirconium

Unalloyed steels: St 37-2, St 52-3

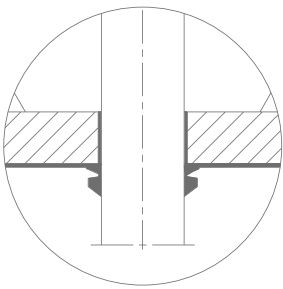
Covers: PP, PVDF, PTFE

Coatings: Hard-rubber-lining, hard/soft-rubber-lining, Halar (E-CTFE), PFA, conductive coatings for explosion-proof applications

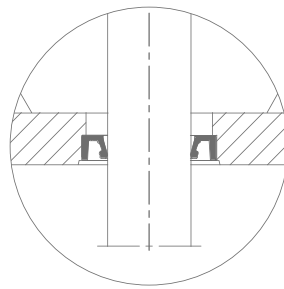
# SEAL TECHNOLOGY

Depending on the reactor process and operating mode, the agitators can be supplied with varied seals for pressurized and non-pressurized operation. Usually, these seals are mounted within sealing housings.

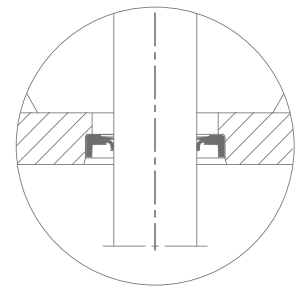
For applications in the food and pharmaceutical industries, we manufacture in all available stainless electro polished steel grades. All coatings and sealing materials are supplied with the relevant FDA<sup>1</sup> certificates of conformity.



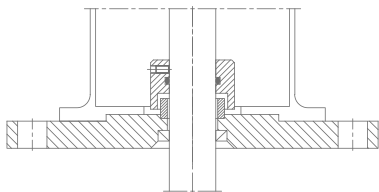
V-ring lip seal



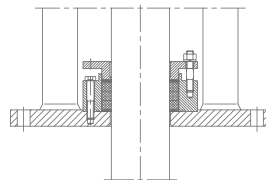
Radial shaft seal ring



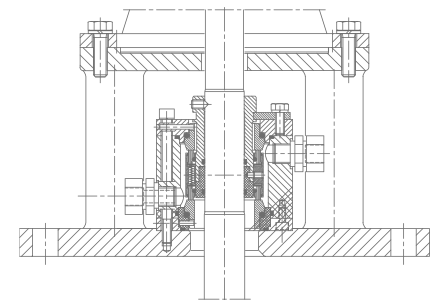
Garlock lip seal



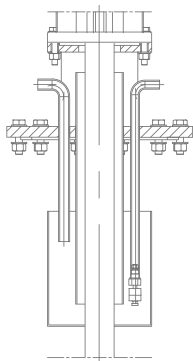
Labyrinth seal



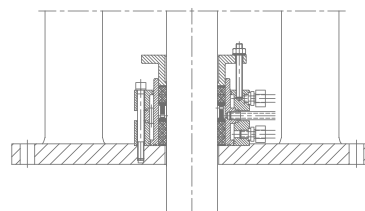
Stuffing box



Mechanical seal  
(single- or double-acting)



Water lock



Stuffing box with  
lubrication

<sup>1</sup> FDA: Food and Drug Administration

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