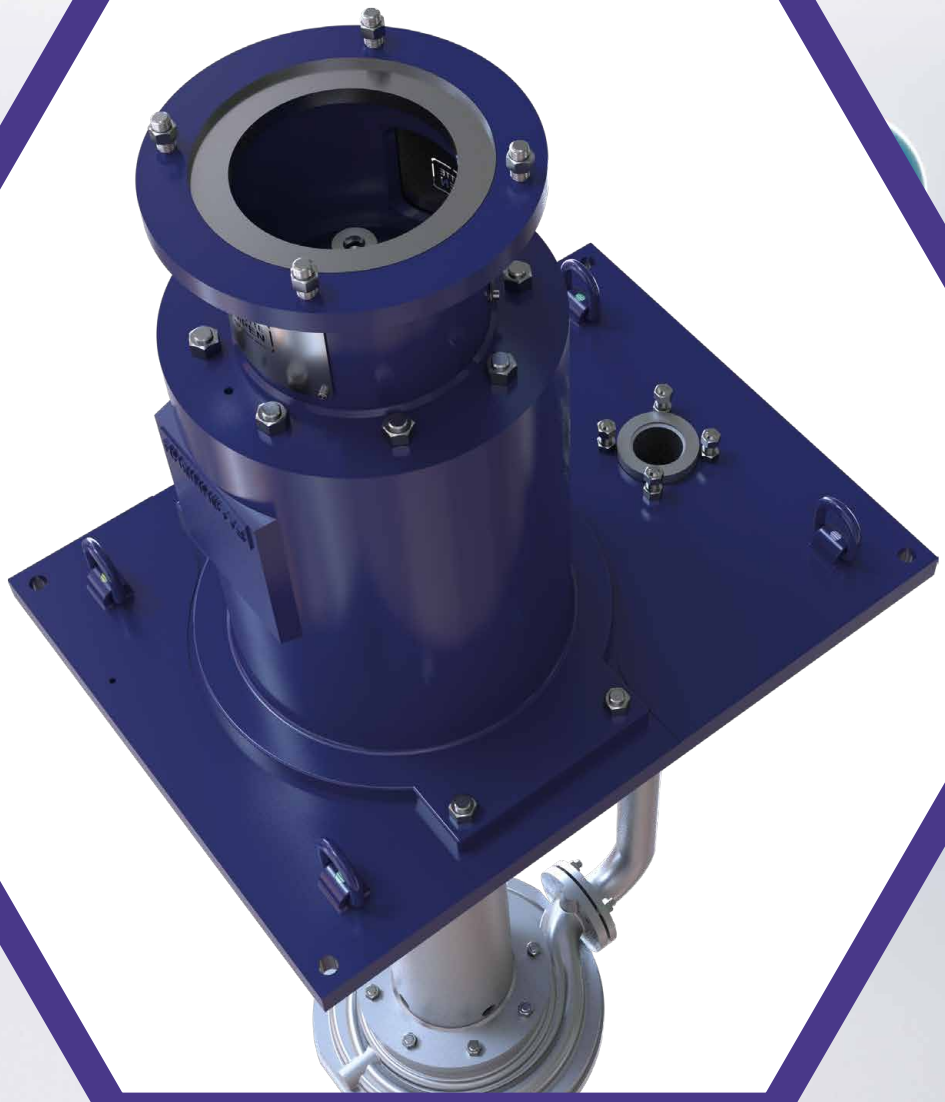
RHEINHÜTTE PUMPEN

An ITT Brand

RCEV

Vertical metal pump with cantilever design



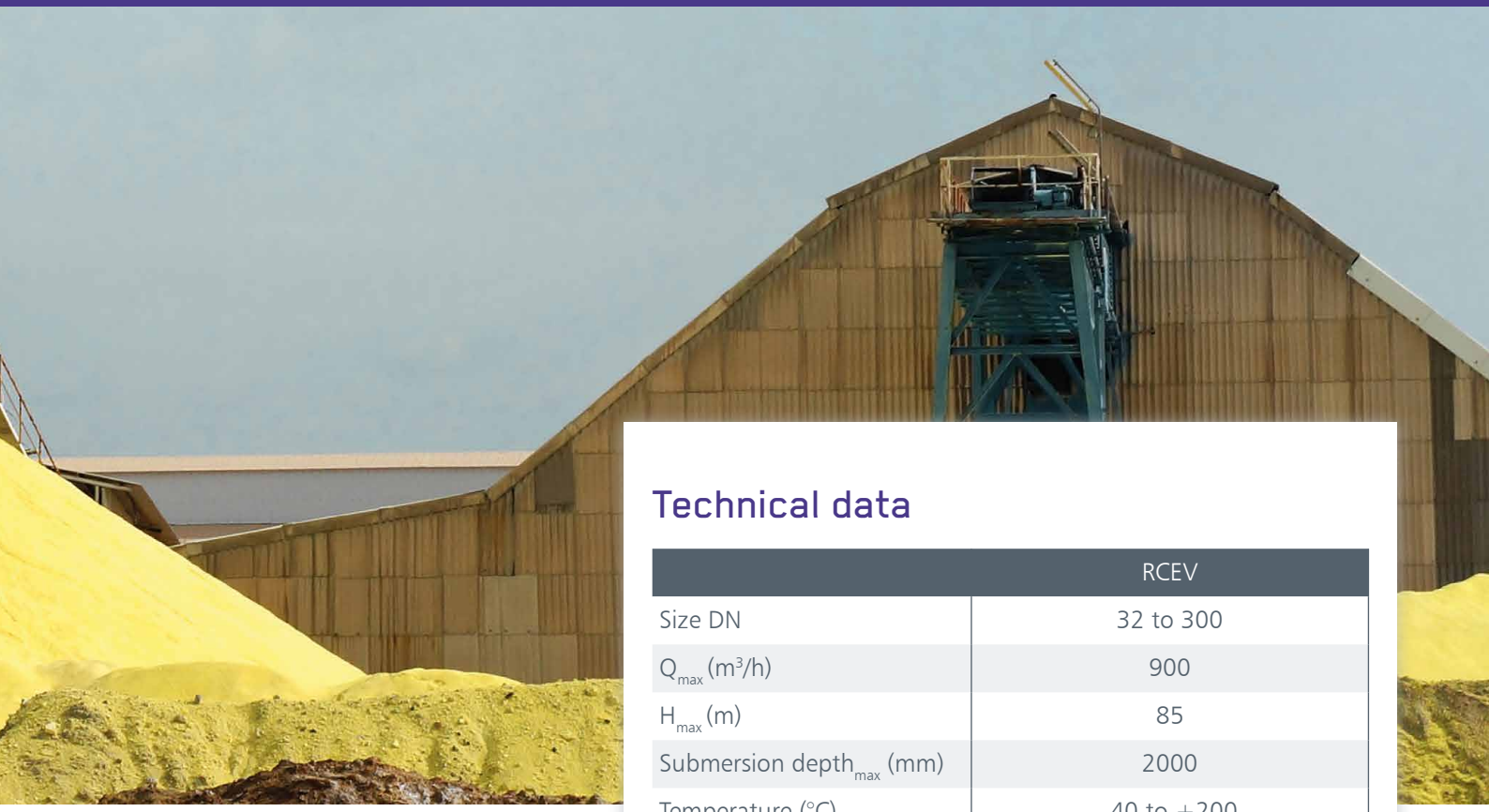
The RCEV

Optimal for solids

Due to its non-pedestal design and impeller equipped with front and rear blades, the RCEV pump type is highly suitable for handling solids-laden liquids. 36 basic sizes are available.

Design features

- Design: vertical, single-stage
- Construction: cantilever design
- Casing design: single or double volute casing
- Pump installation: wet
- Impeller: closed or open
- Bearing lubrication: grease lubrication
- Sleeve bearing lubrication:
  sole plate on tank or steel structure
- Ambient temperature: -20°C to +60°C
- Max. solid content: ca. 30 %



Technical data

	RCEV
Size DN	32 to 300
Q_{max} (m^3/h)	900
H_{max} (m)	85
Submersion $depth_{max}$ (mm)	2000
Temperature (°C)	-40 to +200
Standards	ISO 5199
Flange motor design	Standard
Closed impeller	Standard
Open impeller	Option
Vortex impeller	Option
Seal	Lip ring seal, Stuffing box packing

Options

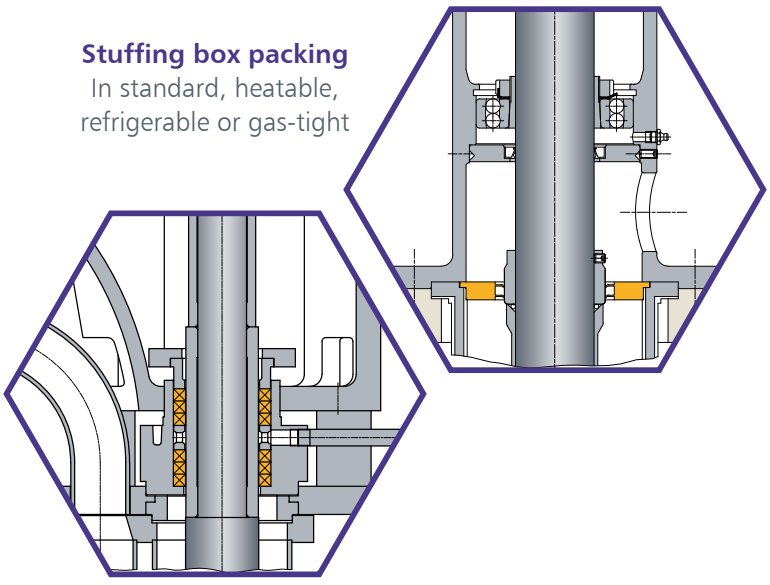
- Heated version
- Temperature and vibration monitoring
- Flange processing in line with international standards
- Suction tube and / or suction strainer design
- Pump accessories

Fields of application

- Acids for copper processing
- Ammonium nitrate solutions
- Dirty sulphur
- DNT-mixtures
- Fertilizer
- NPK/DAP
- Phosphoric acid
- Solids-containing fluids
- Sulphuric acid
- Titanium dioxide suspensions

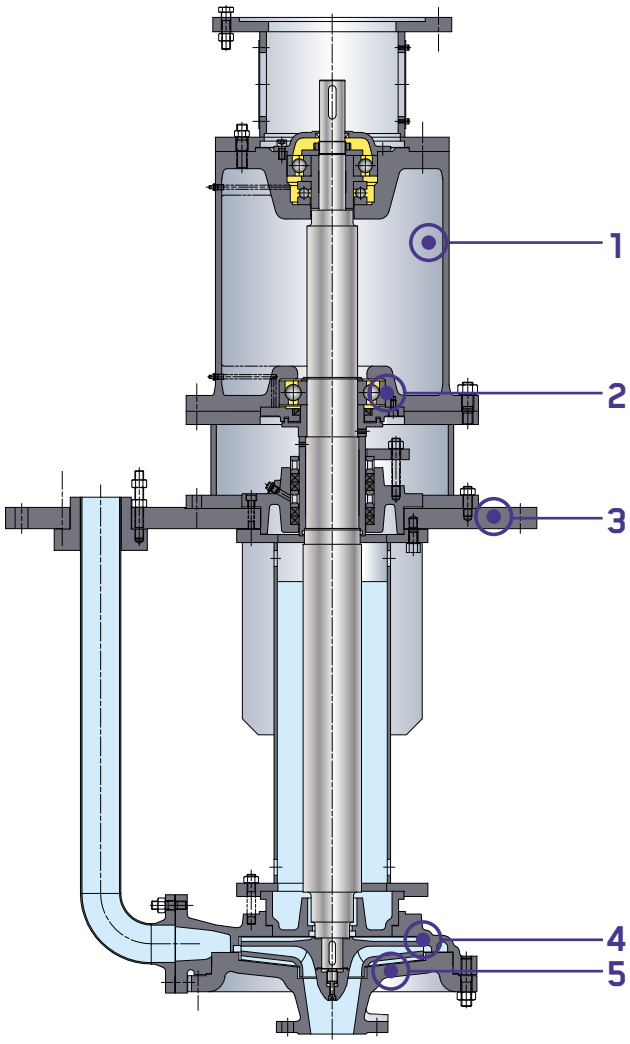
Lip ring seal
Sealed by dry-running or shaft seal rings

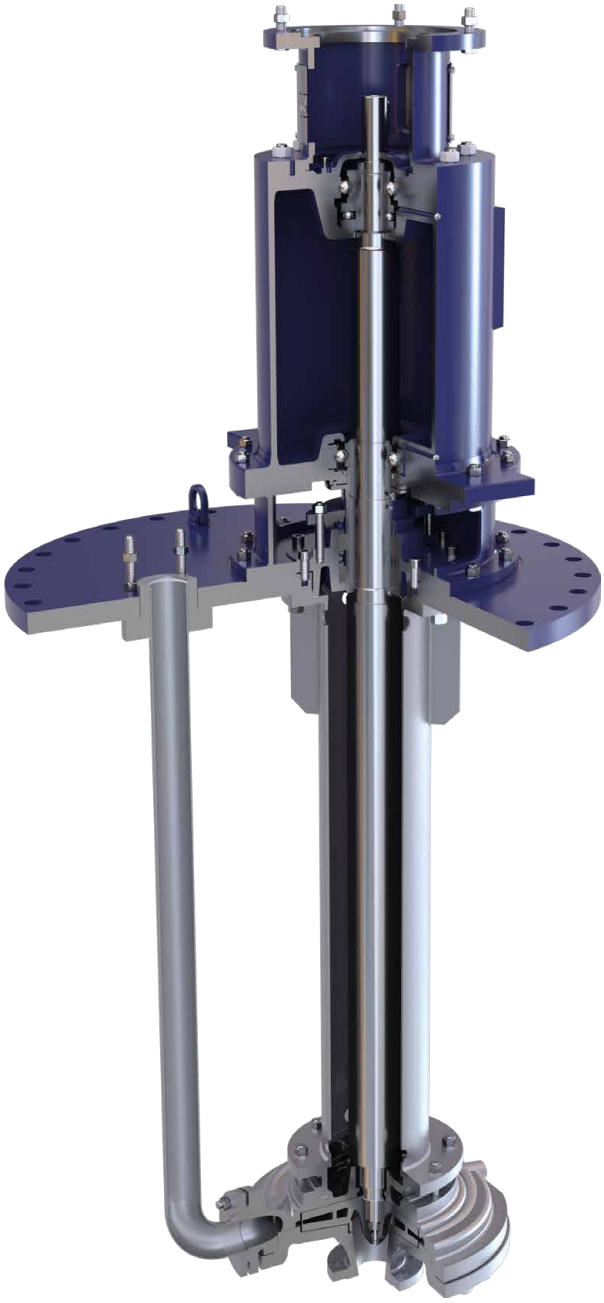
Stuffing box packing
In standard, heatable, refrigerable or gas-tight



Main features

RCEV A





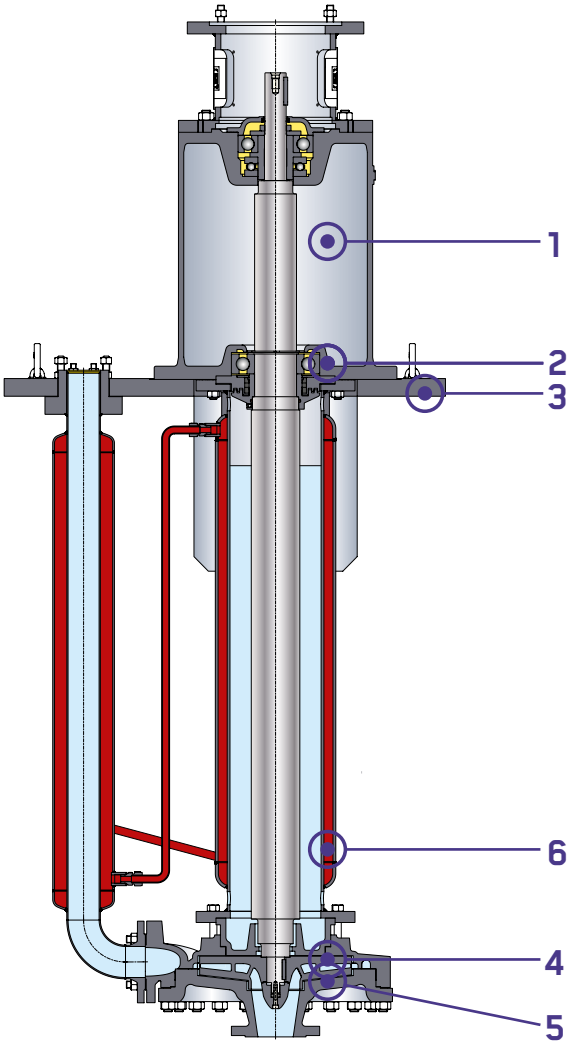
Avoid unplanned downtime

The pump is equipped with the i-ALERT®2 sensor as standard. This monitors vibrations and temperature. If preset limit values are exceeded, LEDs in the sensor light up. All measured values can be retrieved via an app or the Ai Platform. This means that necessary measures can be taken in good time before the pump fails.

1 The robust bearing carrier and the well-dimensioned shaft system guarantee sub-critical, quiet, low-vibration operation.

2 Shaft sealing concepts which do not involve any contact with the medium and the self-emptying design increases the level of reliability.

RCEV YH



3 Depending on the application, the pump can be delivered both for a closed vessel and for a sump or open vessel.

5 Front- and backsided vanes in combination with optimized clearances enable a safe and low wearing transport of solid containing liquids.

4 Optimum flow rates and flow guidance arrangements are specially designed for pumping aggressive and abrasive liquids.

6 Heated shaft pipe and discharge tube possible.

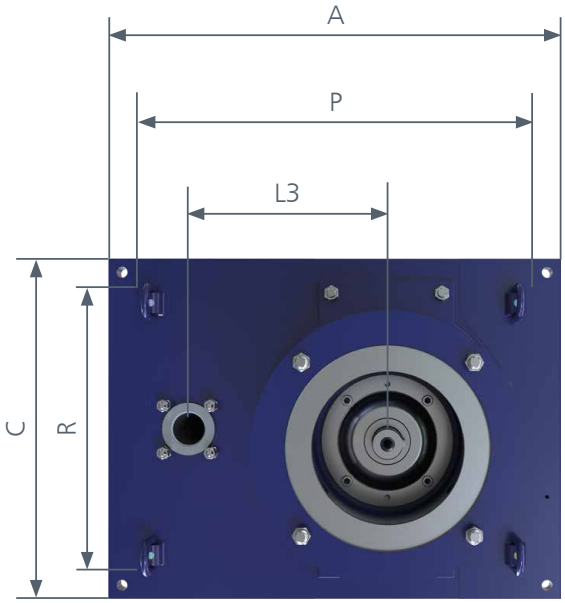
The drawings essentially correspond to the execution. We reserve the right to make design changes.

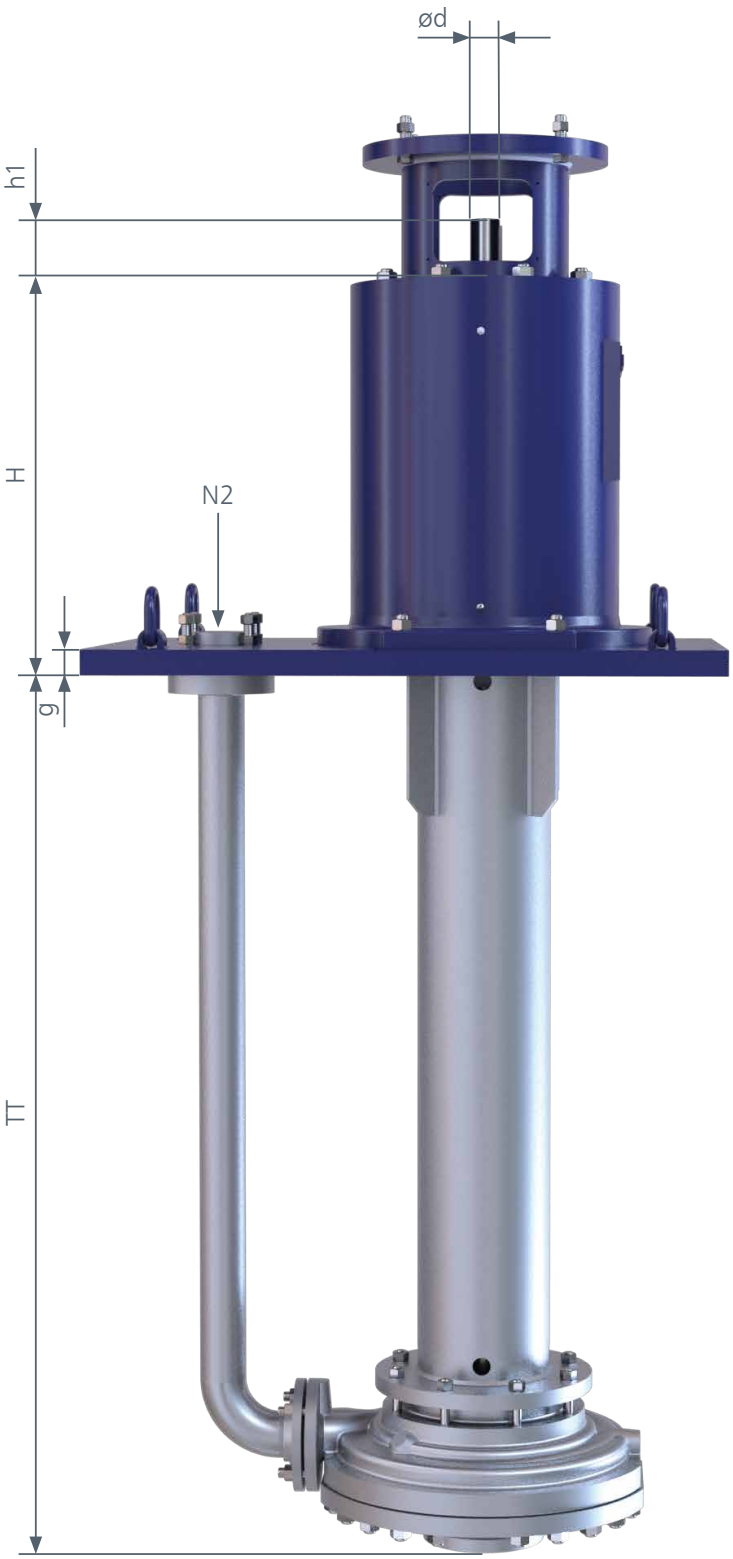
Pumps & installation dimensions

Size	BB	Pump dimensions			Sole plate				Opening for Installation		
		H	ød	h1	g	A	C	L3	P	R	N2
32/130	2	455	38	95	30	800	550	320	600	300	32
32/160	2	455	38	95	30	800	550	330	600	350	32
40/130	2	455	38	95	30	800	550	320	600	300	40
40/160	2	455	38	95	30	800	550	330	600	300	40
40/200	2	455	38	95	30	850	550	355	600	350	40
40/260	2	455	38	95	30	850	550	380	650	350	40
50/130	2	455	38	95	30	850	550	355	650	400	50
50/160	2	455	38	95	30	850	550	365	600	300	50
50/200	2	455	38	95	30	850	550	380	700	400	50
50/260	2	455	38	95	30	850	550	405	700	400	50
65/160	2	455	38	95	30	850	550	340	600	350	65
65/200	2	455	38	95	30	850	550	365	650	400	65
65/260	2	455	38	95	30	850	550	390	700	400	65
80/160	2	455	38	95	30	850	550	365	650	350	80
80/200	2	455	38	95	30	950	550	390	750	400	80
80/260	2	455	38	95	30	950	550	415	800	400	80
100/200	2	455	38	95	30	950	550	455	800	400	100
65/80/360	3	560	48	135	40	1000	750	435	850	600	65
80/320	3	560	48	135	40	950	650	440	800	500	80
100/260	3	560	48	135	40	1050	650	480	850	500	100
100/320	3	560	48	135	40	1050	750	505	900	550	100
125/260	3	560	48	135	40	1050	650	545	900	500	125
125/320	3	560	48	135	40	1200	750	570	1000	550	125
150/260	3	560	48	135	40	1200	650	610	1050	500	150
100/380	4	550	68	185	40	1150	750	525	950	600	100
100/430	4	550	68	185	40	1150	850	550	1000	700	100
125/380	4	550	68	185	40	1250	750	595	1050	600	125
150/320	4	550	68	185	40	1250	750	635	1100	550	150
150/380	4	550	68	185	40	1300	750	660	1150	550	150
200/320	4	550	68	185	40	1400	750	770	1250	600	200
200/380	4	550	68	185	40	1500	850	820	1350	650	200
200/430	4	550	68	185	40	1600	850	870	1400	700	200
250/320	4	550	68	185	40	1600	850	900	1450	650	250
250/380	4	550	68	185	40	1750	850	975	1550	650	250
250/430	4	550	68	185	40	1750	850	1000	1600	700	250
300/430	4	550	68	185	40	1950	1000	1075	1800	850	300

BB = Bearing bracket N2 = Pressure flange

Version for open pits (RCEV Y)





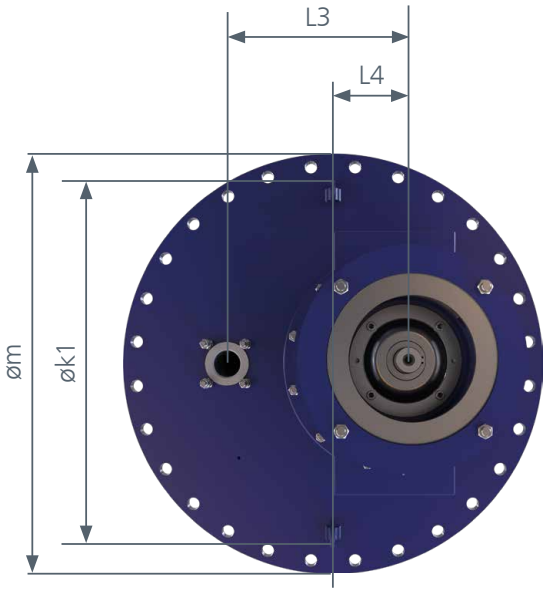
Depth of submersion (TT):
Maximum depth of submersion 2000 mm
Steps 250 mm

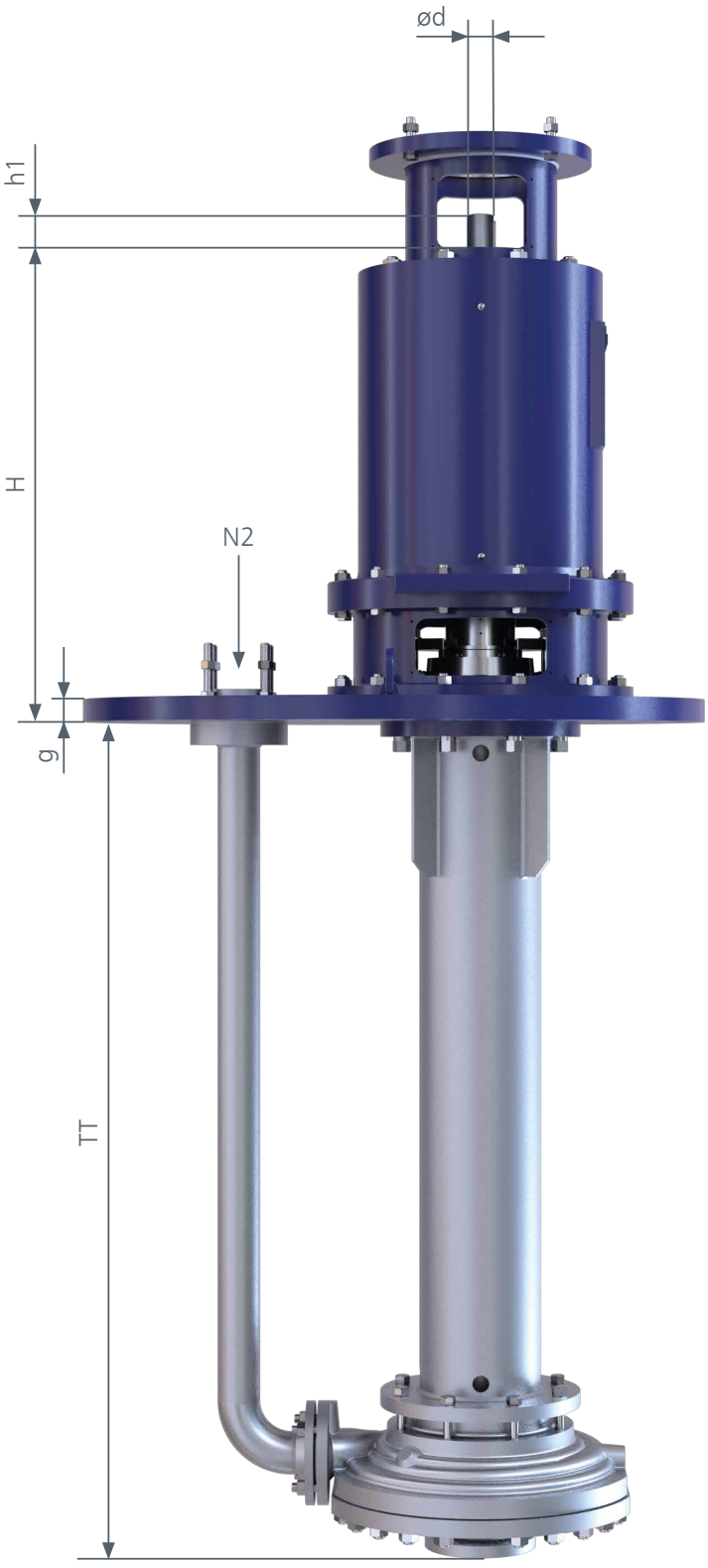
Pumps & installation dimensions

Size	BB	Pump dimensions			Sole plate				Opening for Installation	
		H	ød	h1	g	øm	L4	L3	øk1	N2
32/130	2	655	38	95	30	700	55	320	550	32
32/160	2	655	38	95	30	700	60	330	550	32
40/130	2	655	38	95	30	700	65	320	550	40
40/160	2	655	38	95	30	700	85	330	600	40
40/200	2	655	38	95	30	700	85	355	600	40
40/260	2	655	38	95	30	700	95	380	650	40
50/130	2	655	38	95	30	700	90	355	650	50
50/160	2	655	38	95	30	700	95	365	600	50
50/200	2	655	38	95	30	800	105	380	700	50
50/260	2	655	38	95	30	800	115	405	600	50
65/160	2	655	38	95	30	700	90	340	600	65
65/200	2	655	38	95	30	800	105	365	650	65
65/260	2	655	38	95	30	800	115	390	700	65
80/160	2	655	38	95	30	800	110	365	650	80
80/200	2	655	38	95	30	800	120	390	750	80
80/260	2	655	38	95	30	800	135	415	800	80
100/200	2	655	38	95	30	900	155	455	800	100
65/80/360	3	780	48	135	40	900	155	435	800	65
80/320	3	780	48	135	40	900	135	440	800	80
100/260	3	780	48	135	40	900	155	480	850	100
100/320	3	780	48	135	40	900	165	505	900	100
125/260	3	780	48	135	40	1000	225	545	900	125
125/320	3	780	48	135	40	1000	195	570	1000	125
150/260	3	780	48	135	40	1200	230	610	1050	150
100/380	4	800	68	185	40	1000	165	525	950	100
100/430	4	800	68	185	40	1000	180	550	1000	100
125/380	4	800	68	185	40	1200	205	595	1050	125
150/320	4	800	68	185	40	1200	230	635	1050	150
150/380	4	800	68	185	40	1200	245	660	1100	150
200/320	4	800	68	185	40	1400	320	770	1250	200
200/380	4	800	68	185	40	1400	335	820	1350	200
200/430	4	800	68	185	40	1400	345	870	1400	200
250/320	4	800	68	185	40	1600	385	900	1450	250
250/380	4	800	68	185	40	1600	420	975	1550	250
250/430	4	800	68	185	40	1600	425	1000	1600	250
300/430	4	800	68	185	40	1800	425	1075	1800	300

BB = Bearing bracket N2 = Pressure flange

Version for closed vessels (RCEV A)

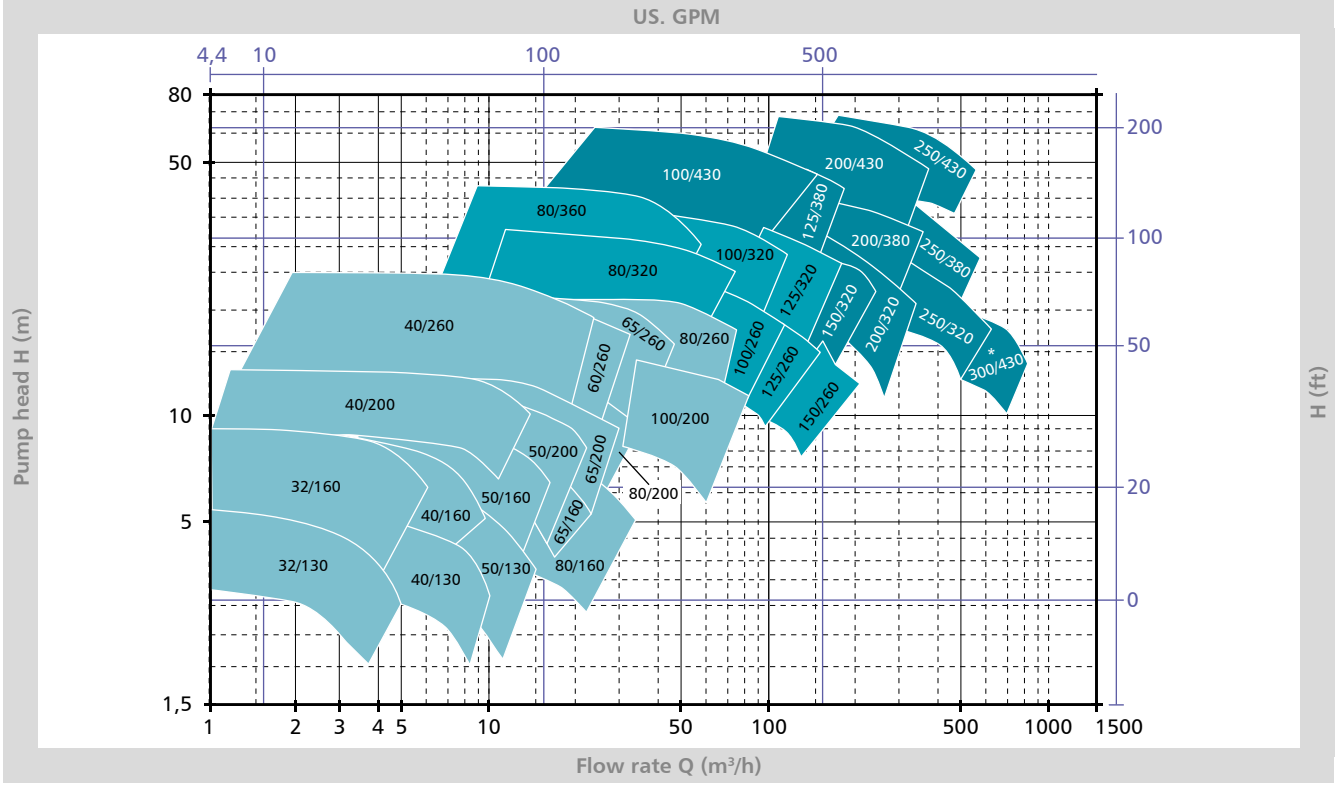




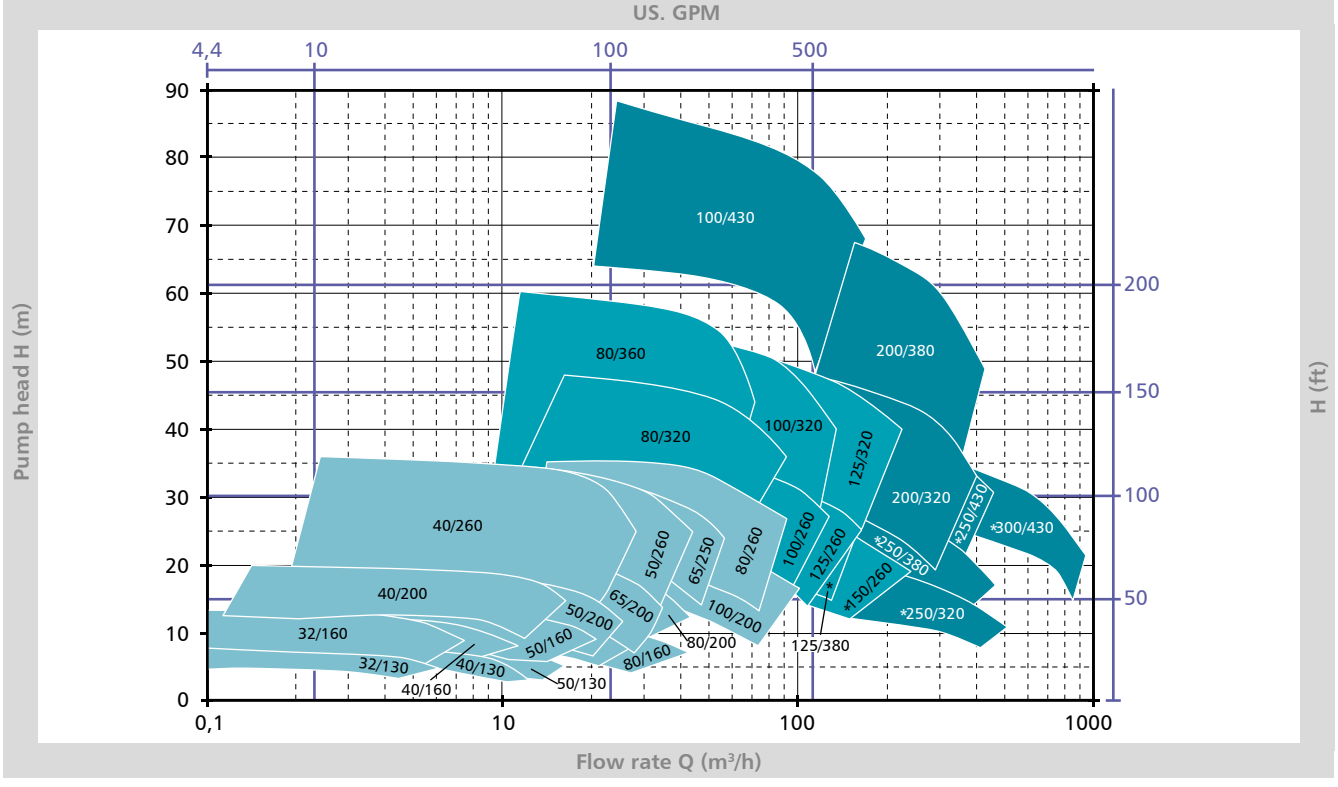
Depth of submersion (TT):
Maximum depth of submersion 1750 mm
Steps 250 mm

Capacity ranges

RCEV : 50 Hz n = 1450 /min ***n = 950 /min**



RCEV : 60 Hz n = 1750 /min ***n = 1150 /min**



Bearing bracket 2 3 4

Metal materials

The range of metallic materials encom-passes a wide variety of very different types of material which are distinguished mainly by their alloy composition, their structure and their manufacturing process. This gives each material its characteristic properties and allows an optimal material to be selected to suit the application.

1.0619
High temperature ferritic cast steel, can be used up to 450 °C. For use with low or non-corrosive media, such as molten sulphur.

1.4408
Fully austenitic chromium nickel molybdenum steels with a good general resistance to corrosion. These materials are suitable for pumping almost all organic liquids, 50% caustic soda up to 90 °C, KTL paint, pure phosphoric acid, dry chlorine, liquid sulphur, PTA and many other media.

1.4136 S
Corrosion and erosion resistant high alloy ferritic cast steel. Typical applications are highly concentrated sulphuric acid up to 180 °C, oleum, fertiliser production, crude phosphoric acid containing solids.

1.4306 S
A specially developed material for the pumping of ammonium nitrate melt, hot nitric acid at medium concentrations and also the vaporisation of waste nitric acid.

1.4517
Semi-austenitic, molybdenum and copper alloyed material with a high resistance to pitting and stress corrosion. This material is one of the super duplex steels. It can be used with crude phosphoric acid, containing solids at up to 100 °C, hot sea water, many solutions containing chloride, FGD suspensions and sulphuric acid at all concentrations at low temperatures.

R 3020
Fully austenitic special stainless steel with a high molybdenum and copper content. High resistance to pitting, stress corrosion and intercrystalline corrosion. Suitable for 70% caustic soda up to 200 °C, sulphuric acid at all concentrations at low and medium temperatures, sulphuric acid pickling solutions, in certain areas of the manufacture of phosphoric acid, for pumping solutions with a high chloride content and in spin baths.

1.4529 S
A high grade special material having a high resistance to acidic media containing solids and rich in chlorides. Used in absorber and quencher fluids of the FGD, for acidic and chloride containing gypsum slurries, in the manufacture of phosphoric acid, in vaporisation and crystallisation processes and also for hot sea water.

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3.19.0001/001-0621_en_xy

B.RCEV.en-GB.2021-06