

# RVKu

Vertical plastic pump





# The RVKu

## Ideal for acids and alkalis

The vertical Rheinhütte centrifugal pump type RVKu is used to pump aggressive or slightly contaminated liquids and is usually a submersible pump for installation in open pits or on tanks. When installed wet, the pump housing is immersed in the pumped medium and is connected to the support flange via the suspension tube.

### Design features

- Design: vertical, single-stage
- Construction: Food bearing
- Casing design: single or double volute casing
- Pump installation: wet
- Bearing lubrication: grease lubrication
- Installation versions: sole plate on pit or steel structure
- Ambient temperature: -4 °C bis +60 °C (-20 °F bis +140 °F)
- Max. solid content: approx. 5 %





## Technical data

	RVKu
Size DN	32 to 250
$Q_{\max}$ m <sup>3</sup> /h (gpm)	1000 (4403)
$H_{\max}$ m (ft)	70 (230)
Submersion depth <sub>max</sub> (m)	3
Temperature °C (°F)	-40 to +90 (-40 to +194)
Standards	ISO 5199
Closed impeller	Standard
Seal	Labyrinth seal, Lip ring seal

## Options

- Temperature and vibration monitoring
- Equipment health monitoring with i-Alert®3
- Flange processing in line with international standards
- Suction tube and / or suction strainer design
- Pump accessories

## Applications

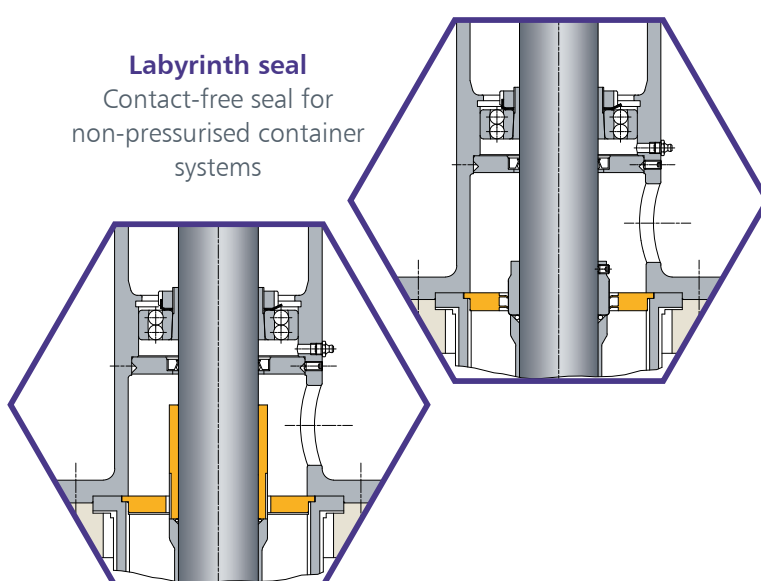
- Chemical industry
- Fertilizers
- Flue gas scrubber (waste incinerators)
- Seawater
- Sulphuric acid
- Steel and stainless steel pickling

### Lip ring seal

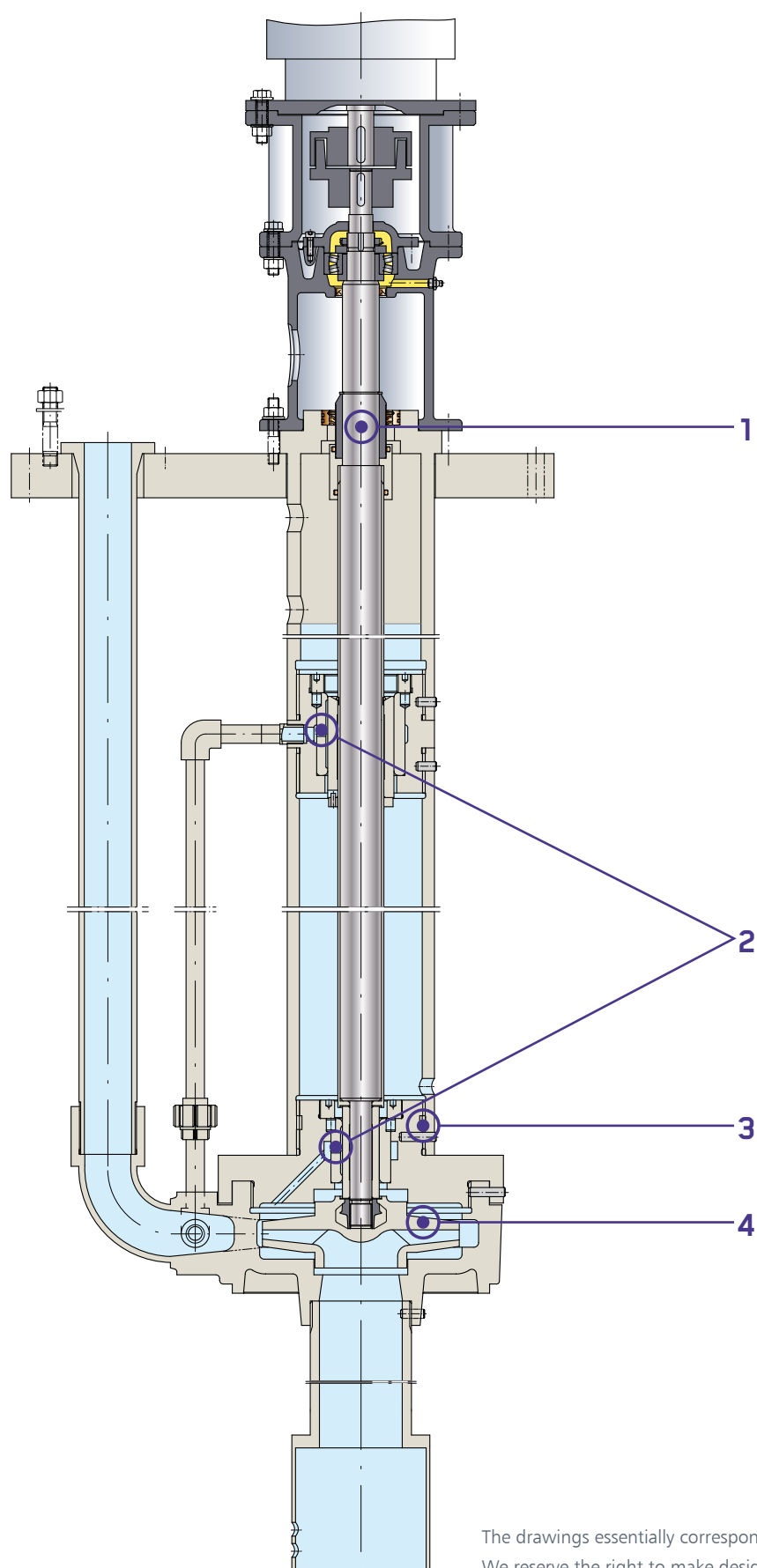
Sealed by dry-running  
or shaft seal rings

### Labyrinth seal

Contact-free seal for  
non-pressurised container  
systems



# Main features



The drawings essentially correspond to the execution.  
We reserve the right to make design changes. Other designs on request.

1

The smooth running of the shaft is ensured by the use of a spherical roller bearing arranged outside the aggressive zone and an immersion plain bearing made of silicon carbide or coal guaranteed.

2

The plain bearing of the shaft is lubricated with pumped medium via internal pipes. In case of high solids content in the pumped medium, the plain bearing lubrication is realized by an external clean flushing liquid.

3

The parts of the pump in contact with the medium are metal-free. All parts are made of solid plastic. The strong shaft is pore-tightly encased in plastic. Steel/rubberised suspension tube from size 150/400.

4

The closed impeller design with long throttle gaps allows immersion depths of up to 3 m at operating temperatures up to 90 °C (194 °F). Longer submersion depths are possible on request.



# Pumps & installation dimensions

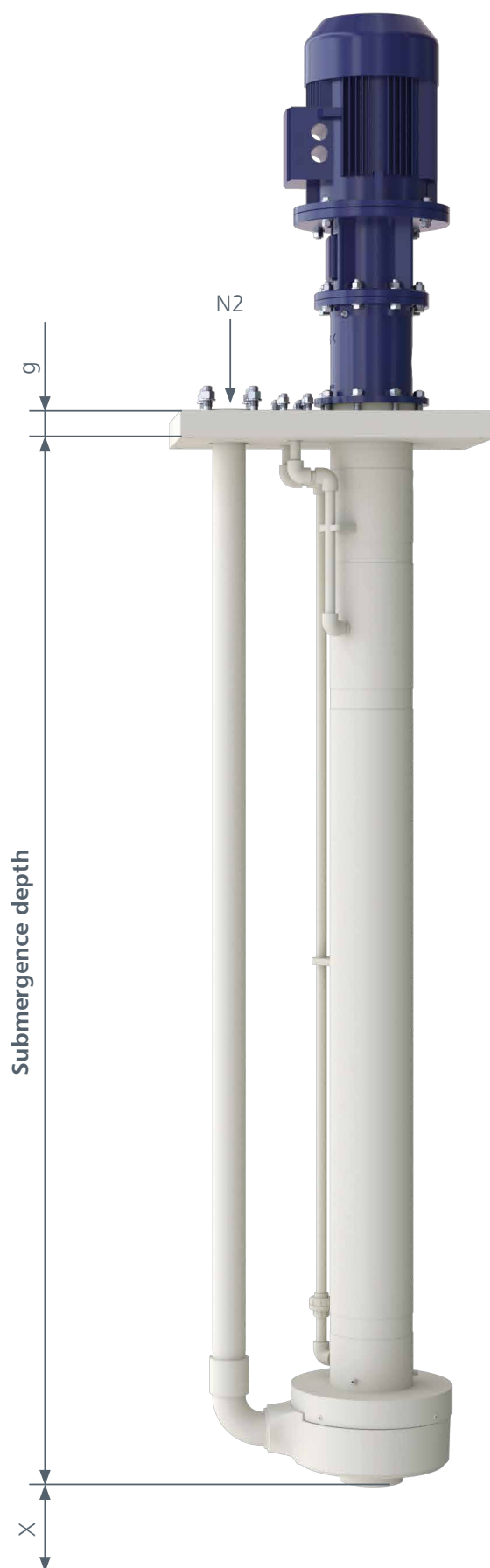
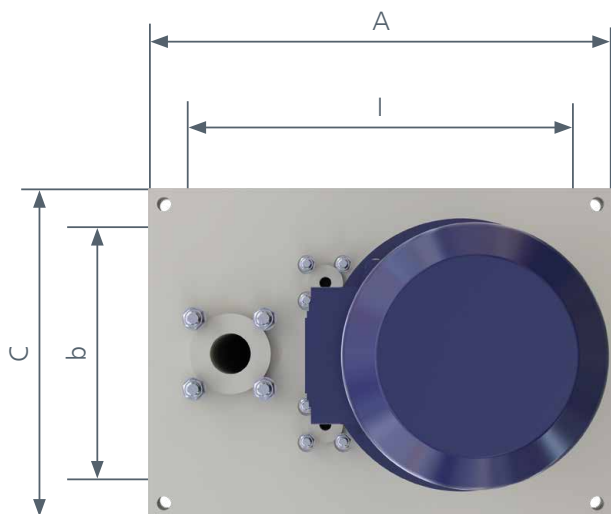
Size	BB	Sole plate				Installation opening		N2
		g Engine 80-160	g Engine 180-250	A	C	I	b	
32/160	1	50	-	490	370	390	270	32
40/200	1	50	21	550	430	450	330	40
50/200	1	50	21	590	420	510	340	50
50/250	2	50	21	660	500	560	400	50
50/315	2	50	21	760	580	660	480	50
80/200	2	50	21	710	500	630	420	80
80/250	2	50	28	840	570	740	470	80
80/315	3	28	28	850	590	750	490	80
80/400	3	28	28	950	750	850	650	80
100/250	3	28	28	850	590	750	490	100
125/315	3	28	28	1000	700	900	600	125
125/400	3	28	28	1080	800	980	700	125
150/400	4	-	28	1240	780	1140	680	150
200/315	4	-	28	1400	800	1300	700	200
200/400	5	-	33	1500	900	1400	800	200
250/500	5	-	33	1800	1400	1600	1200	250

BB = Bearing bracket N2 = Pressure flange

All dimensions are shown in millimetres.

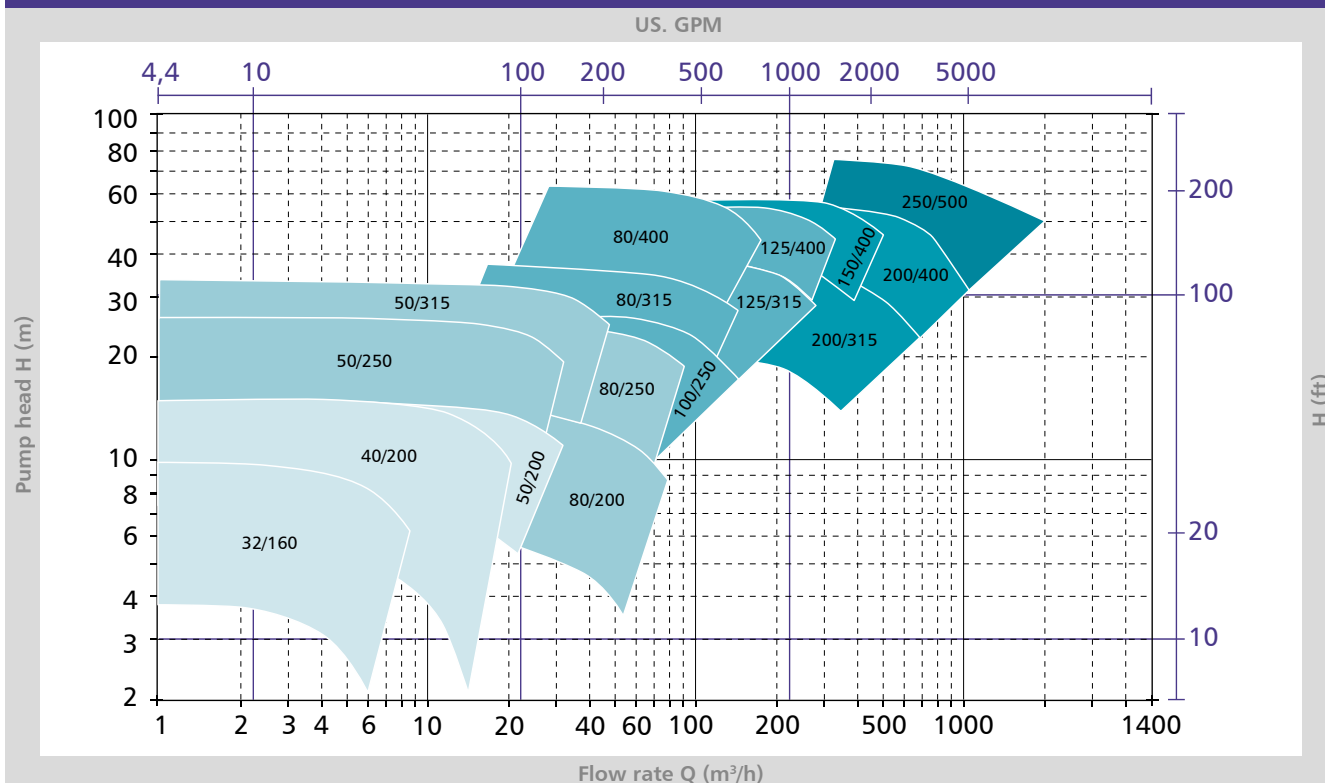
**Submergence depth (TT)**  
**X**

500, 1000, 1750 mm (2000, 2500 and 3000 mm with intermediate bearing)  
Max. 2000 mm (suction tube/strainer optional)

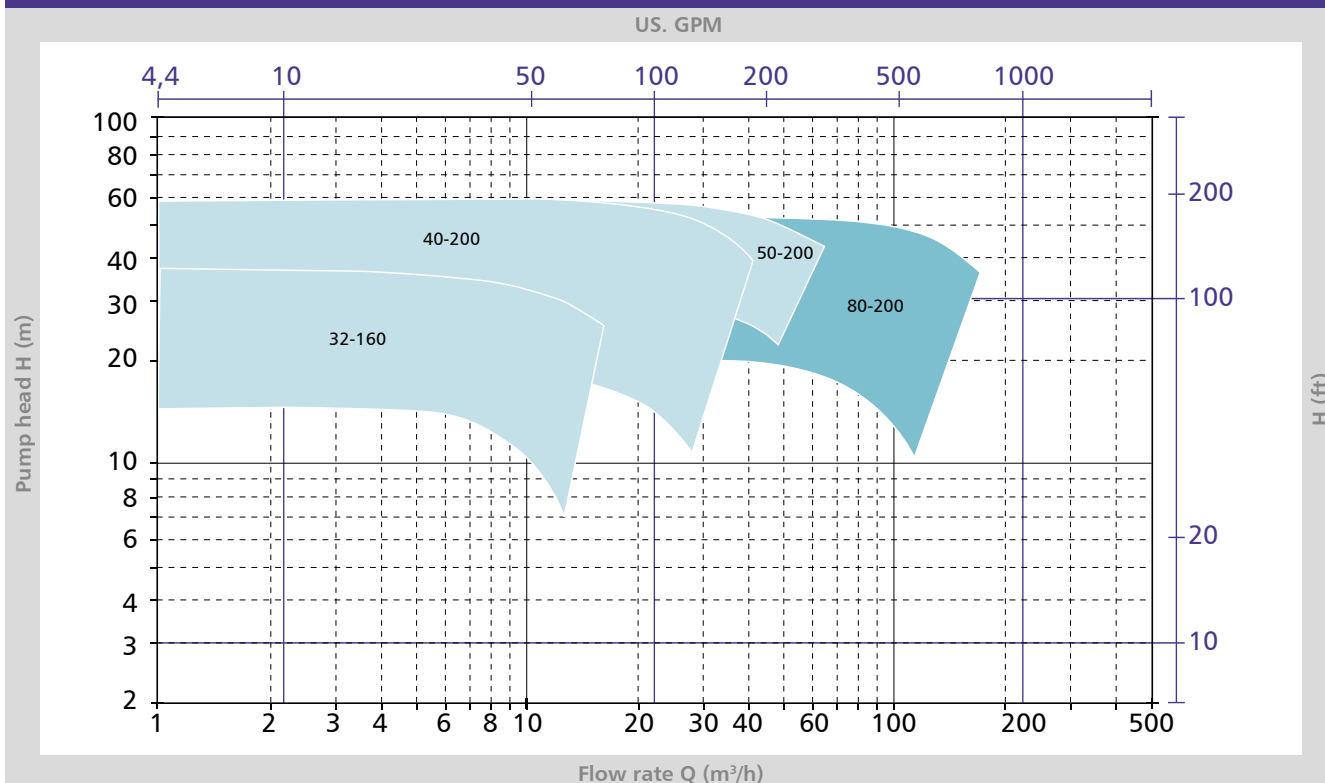


# Capacity ranges

RVKu : 50 Hz  $n = 1450 / \text{min}$



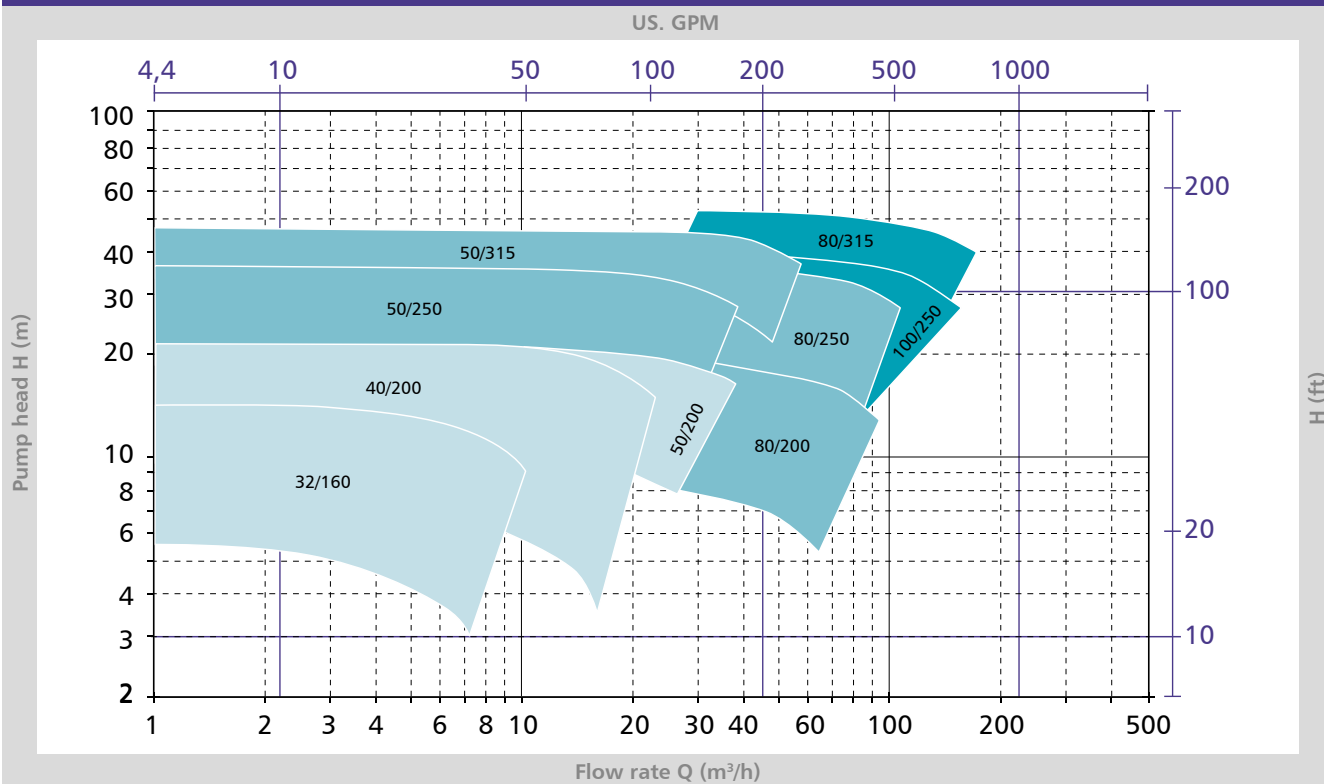
RVKu : 50 Hz  $n = 2900 / \text{min}$



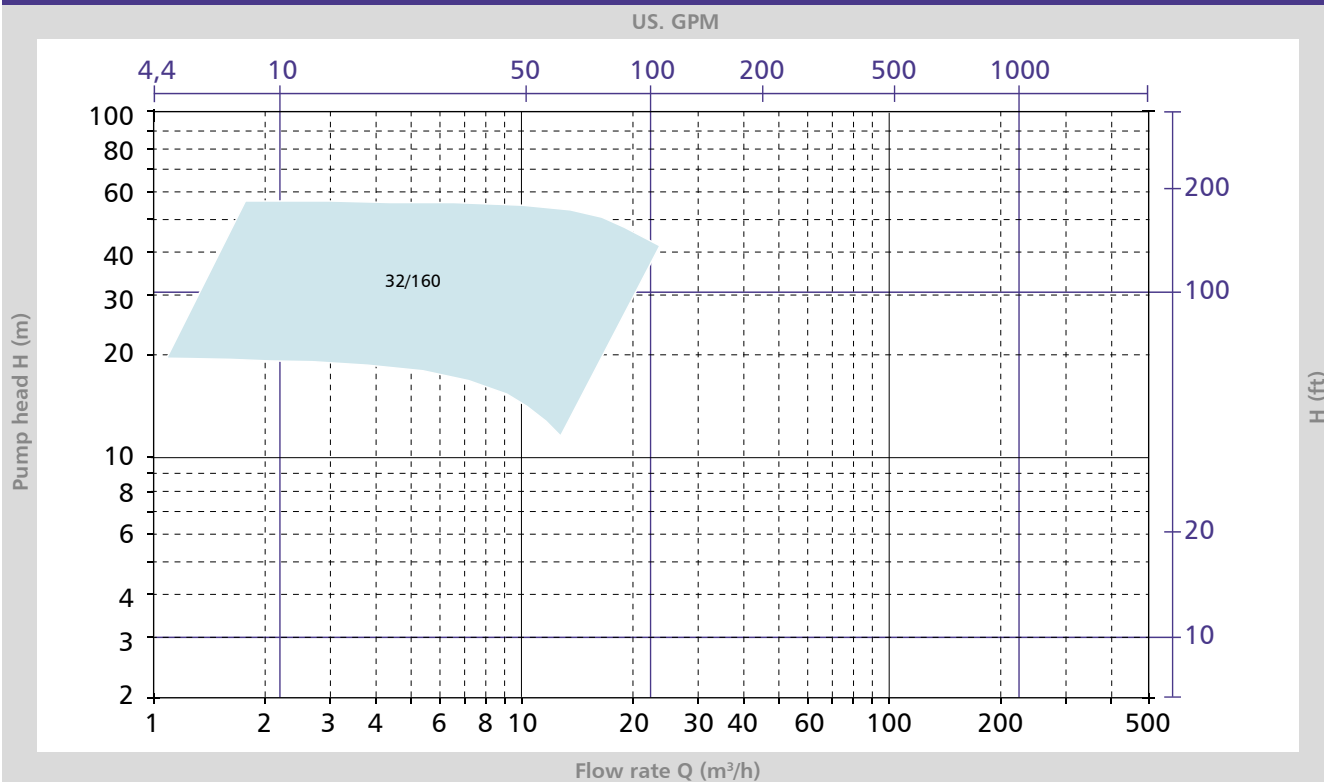
Bearing bracket 1 2 3 4 6



RVKu : 60 Hz n = 1750 /min



RVKu : 60 Hz n = 3500 /min





# Plastic materials

Our material experts help you to choose the right material. Plastics are in particular demand in applications with high corrosion resistance requirements, in order to ensure a long pump life cycle.

## PP – Polypropylene

This plastic is particularly suitable for simple, common applications. It offers outstanding performance at temperatures from 0 to +80°C (+32 to +176°F). PP has proven its worth in acids, alkalis and saline solutions as well as in hydrochloric acid pickling.

## PVDF – Polyvinylidene fluoride

The partial fluorination of this polymer increases its chemical resistance many times over. PVDF is resistant to most solvents, acids and oxidants. PVDF is an optimum material for many applications in the chemical industry for temperatures from -20 to +100°C (-4 to +212°F).

## PE 1000 (UHMWPE) – Polyethylene

The outstanding feature of this high molecular weight polymer is its resistance to wear in case of solids in the pumped medium. There is also a wide range of corrosion resistance options. In the temperature range from -20 to +70°C (-4 to +158°F), PE 1000 is in many cases an alternative to stainless steels.







— An ITT Brand

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