

ASV Vertical Chemical Sump Pump made of thermoplastic materials

Type ET

Sizes

Flow volume

Flow head

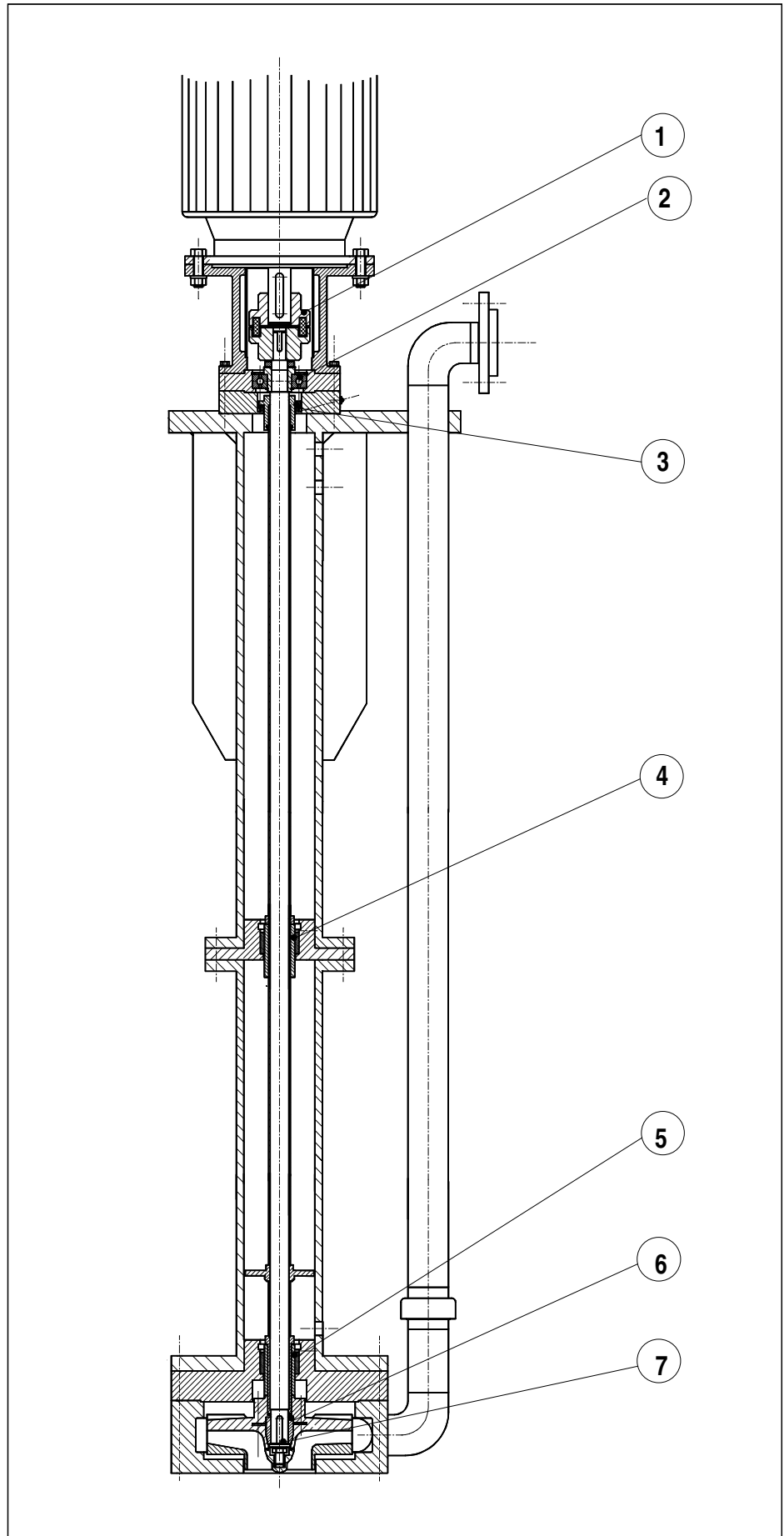
Submersion depth

- ET 15- 80 up to ET 80-250
- up to 120 m³/h
- up to 55 m
- up to 2000 mm



Construction

1. Elastic coupling to relieve pump and motor bearing.
2. Protection of drive unit against aggressive circulating air.
3. Labyrinth seal protects interior space against gases and vapours.
Single acting mechanical seals on request.
4. Fluid lubricated intermediate bearings (from 1500 mm submersion depth) guarantee the stability of pump shaft. Due to a special construction dry running of the bearings is avoided even in case of low fluid levels in the storage tank.
5. Pairs of mechanical seal of SiC/PTFE-C-CSb or SiC/SiC or SiC/C guarantee the operating safety of sump pumps.
Dry running capable slide bearing on request.
6. Axial thrust relief by vanes on the back of the impeller or by reliefbores (depending on pump size).
7. Impeller fixing independent of direction of rotation.



Application

The ASV sump pumps with bearings are single-stage vertical chemical centrifugal pumps made of thermoplastic material constructed on the modular principle. The sealless ASV thermoplastic sump pumps in the standard execution are designed for operation in open or closed depressurized containers or pits.

The ASV sump pumps may be used for pumping of chemical aggressive, corrosive fluids in the waste water detoxification, water treatment and in galvanic plants etc. as pumps for draining or circulating the fluid.

Construction

The submersion depths of the ASV sump pumps are from 500 mm with steps of 250 mm up to 2000 mm. By means of a special designed suction extension the submersion depth can be increased of up to further 2000 mm depending on the pump size. Using a suction extension the fluid level has to be above the pump volute casing on starting the pump (see min. fluid level on pump drawing) due to the fact that the sump pumps are not self-priming. Between the stated "min." and "max." fluid level (see pump drawing) the pump can be switched on as desired.

Materials

In standard ASV sump pumps are made of the high-molecular thermoplastic materials Polypropylene (PP) (5 °C up to 80 °C) and Polyvinylidene fluoride (PVDF) (-20 °C up to 100 °C), using the pumps in extreme abrasive fluids the components subject to increased wear are made of UHMW-PE. Because of the ASV Stübbe modular design system the proven components of the ASV standard chemical pumps can be used for the sump pumps as well. The robust construction adapted to thermoplastics demands a minimum of maintenance.

Bearing

Because of the double bearing of the shaft the stability of this important part is secured. From a submersion depth of 1500 mm up the pump shaft is additionally secured by a further bearing. By this a smooth, radially vibration-low running of the pump as well as an improvement of the hydraulic efficiency is given. Through an integrated pressure relief the slide bearings are relieved of solid particles.

The chosen standard execution of the pair of mechanical seal teflon/carbon/graphite (PTFE/C/CSb) against SiC guarantees the fluid resistance of the bearing. Depending on the fluid the pairs of mechanical seal SiC/SiC or SiC/C are also used. For special applications where due to operation a longer dry running cannot be avoided, a dry running capable execution of mechanical seal can be used.

Pump shaft

The pump shaft made of acidproof stainless steel is covered by a thick-walled shaft protection sleeve corresponding to the pump material. Through an O-ring sealing the injection-moulded impeller is connected with the pump shaft independent of direction of rotation by means of a moulded metal hub. Depending on varying fluid temperatures occurring graduations will be compensated by the special developed pump hydraulic. By this there are constant characteristic curves of the pump for the total pumping range independent of fluid temperature. Because of the special construction the ASV sump pumps can be run against closed valve on the pressure side, in case of larger solid particles in the fluid a strainer can be installed on the suction side in the corresponding size.

Options

- Mounting plates on request
- Fixing bores in the mounting plate according to customer's request
- Pressure pipe branches depending on installation
- Suction tube extensions up to 2000 mm
- Strainers in case of larger solid particles in the fluid
- External bearing lubrication
- Dry running capable sleeve bearings
- Single acting mechanical seal
- Installation outside of storage tank (dry-well installation)

Accessories

According to the operating conditions ASV sump pumps may be provided with following accessories:

For example:

- ASV dry-run protection device
- ASV level control
- ASV thermoplastic valves
- Fittings and accessories for installing complete plants



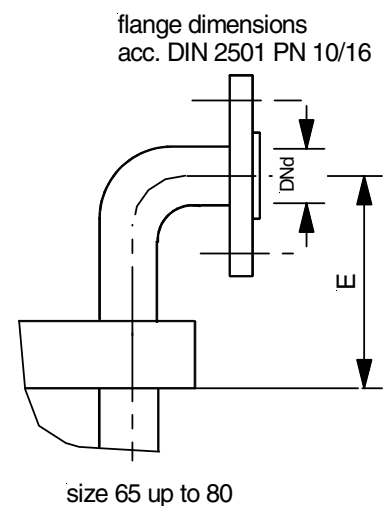
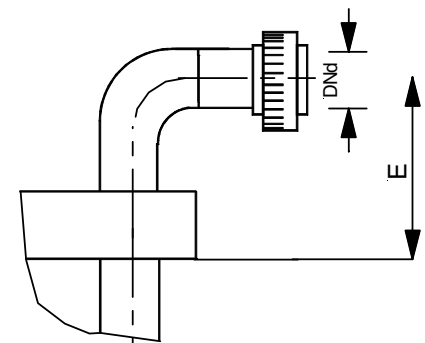
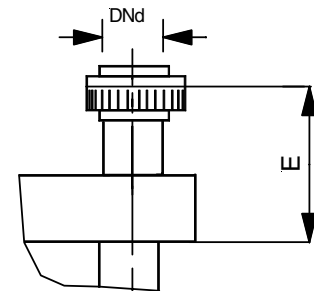
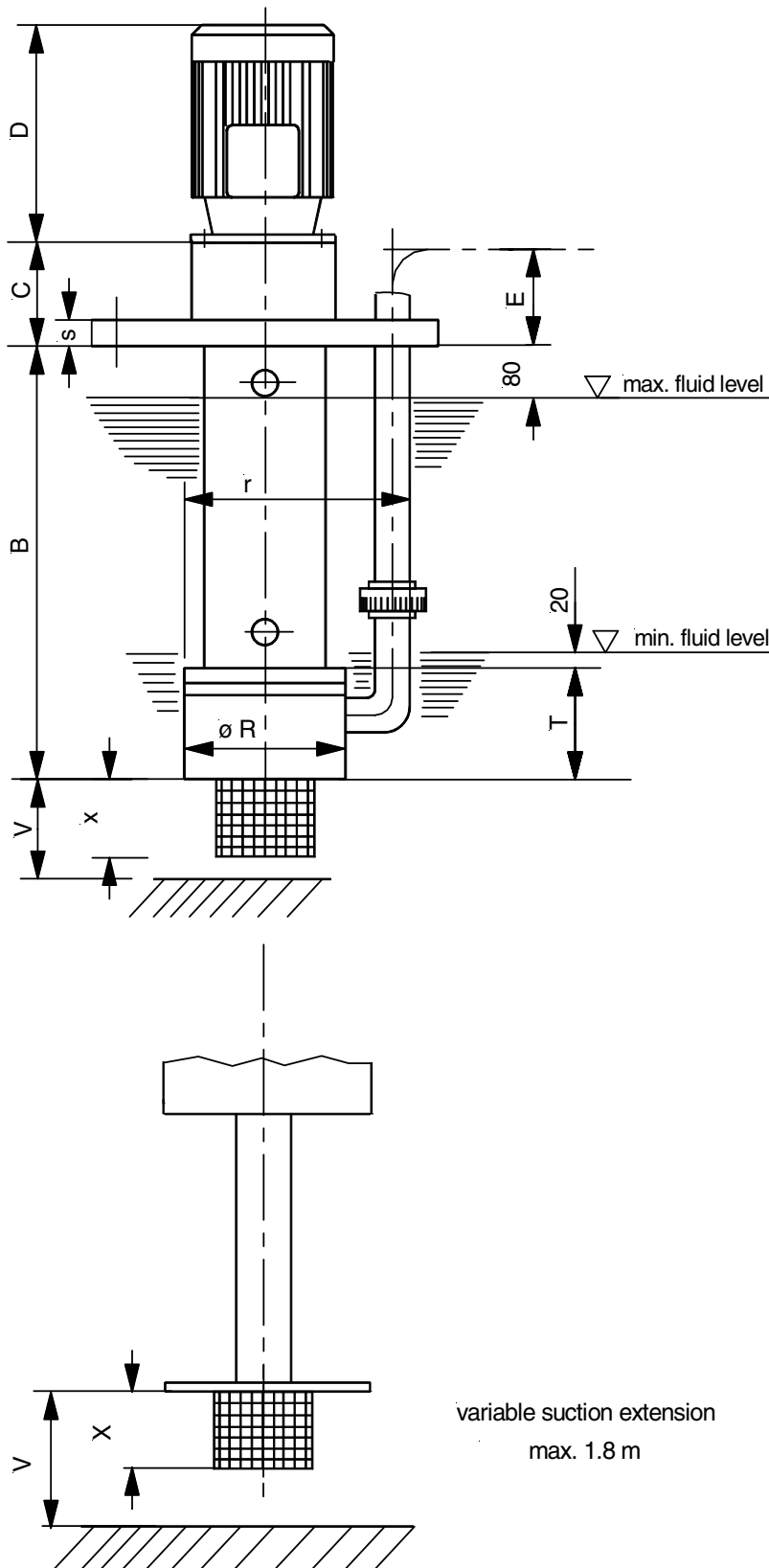
Dimensions

Size	Connection	Motor	Pump dimensions									Mounting plate with connection								
Pump type	DN _d	kW max.	X	B ¹⁾	C	D ²⁾	E	V	R	T	r	F	G	H	I	K	L	M	N	s
ET 15-80	15	0,55	100	500	136		95	110	120	80	170	40	-	-	100	-	210	255	-	20
ET 20-100	20	0,75	100	500	136		95	110	138	110	187	50	-	-	105	-	230	270	-	20
ET 25-125	25	1,5	100	500	136		95	110	158	110	214	58	-	-	119	-	270	320	-	20
ET 32-125	32	5,5	125	500	203		155	140	200	140	250	22	-	-	220	-	365	400	-	30
ET 32-160	32	11	125	500	269		165	140	274	200	412	-	350	440	244	350	-	-	440	30
ET 32-200	32	11	125	500	299		165	140	320	200	400	-	360	540	264	420	-	-	470	40
ET 32-250	32	11	125	500	299		165	140	400	215	495	-	410	590	288	440	-	-	490	40
ET 40-125	40	7,5	150	500	203		155	160	200	140	260	22	-	-	235	-	365	400	-	40
ET 40-160	40	11	150	500	269		165	160	274	200	417	-	350	440	255	350	-	-	440	40
ET 40-200	40	15	150	500	299		165	160	320	200	405	-	360	540	275	420	-	-	470	40
ET 40-250	40	15	150	500	299		165	160	400	215	500	-	410	590	299	440	-	-	490	40
ET 50-125	50	11	125	500	269		165	160	274	210	423	-	350	440	269	350	-	-	440	40
ET 50-160	50	15	125	500	299		165	160	320	210	420	-	360	540	297	420	-	-	470	40
ET 50-200	50	15	125	500	299		165	160	348	210	455	-	360	540	319	420	-	-	470	40
ET 50-250	50	15	125	500	299		165	160	400	215	506	-	410	590	318	440	-	-	490	40
ET 65-200	65	15	125	500	299		165	160	348	210	461	-	360	540	330	420	-	-	470	40
ET 65-250	65	15	125	500	299		165	160	400	215	512	-	410	590	318	440	-	-	490	40
ET 80-160	80	15	150	500	299		165	160	348	210	509	-	410	590	343	490	-	-	540	40
ET 80-200	80	15	150	500	299		165	160	400	210	535	-	410	590	343	490	-	-	540	40
ET 80-250	80	15	150	500	299		165	160	450	215	560	-	410	650	343	490	-	-	540	40

¹⁾ face-to-face dimensions from 500 mm to 2000 mm, in 250 mm steps, from 1500 mm on with intermediate bearing

²⁾ acc. to motor size

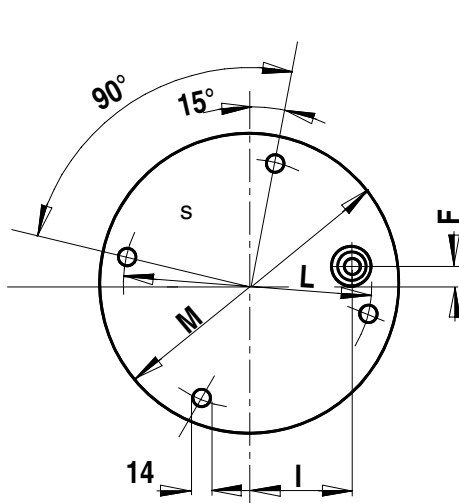
Dimensional drawing



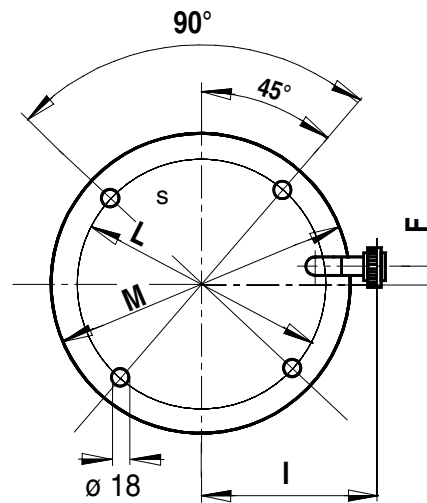
flange dimensions
acc. DIN 2501 PN 10/16

variable suction extension
max. 1.8 m

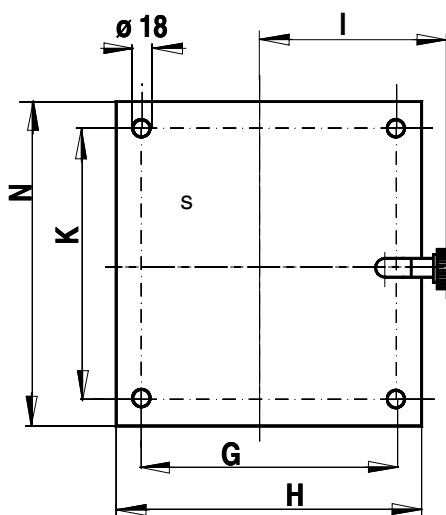
Measurements mounting plate



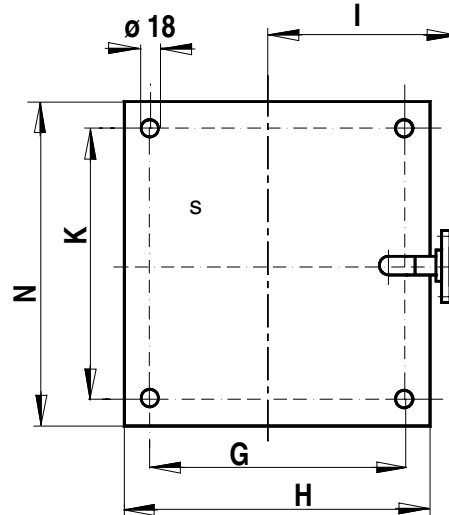
size 15 up to 25



size 32 / 40-125



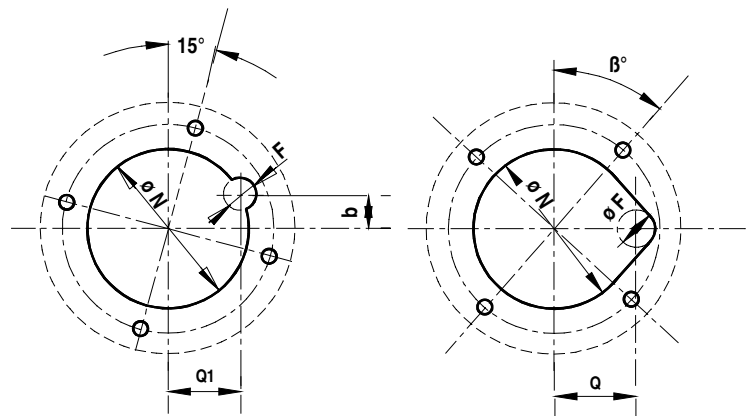
size 32 up to 50



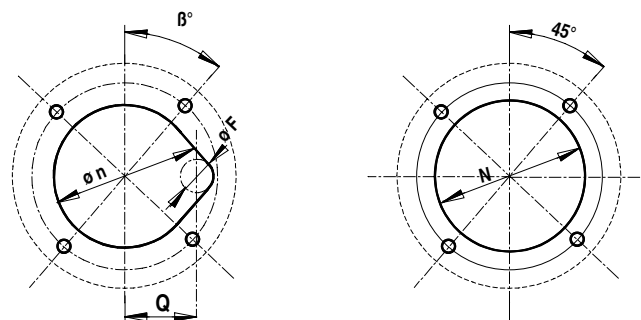
size 65 up to 80

Dimensions assembly opening

Pump type	a	b	Q	N	n	F	β°
ET 15-80	80	40	90	185	-	70	37
ET 20-100	85	50	97	205	-	70	40
ET 25-125	100	58	112	245	-	80	41
ET 32-125	130	22	-	335	240	95	54
ET 32-160	400	300	-	-	-	-	-
ET 32-200	490	370	-	-	-	-	-
ET 32-250	520	410	-	-	-	-	-
ET 40-125	130	22	-	335	240	95	54
ET 40-160	400	300	-	-	-	-	-
ET 40-200	490	370	-	-	-	-	-
ET 40-250	520	410	-	-	-	-	-
ET 50-125	400	300	-	-	-	-	-
ET 50-160	490	370	-	-	-	-	-
ET 50-200	490	370	-	-	-	-	-
ET 50-250	520	410	-	-	-	-	-
ET 65-200	490	370	-	-	-	-	-
ET 65-250	520	410	-	-	-	-	-
ET 80-160	550	460	-	-	-	-	-
ET 80-200	550	460	-	-	-	-	-
ET 80-250	610	460	-	-	-	-	-

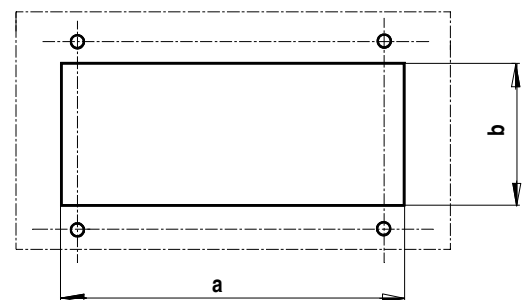


two assembly variants
assembly opening for 15-80 up to 25-125



assembly opening
for 32-125

assembly opening
for 40-125

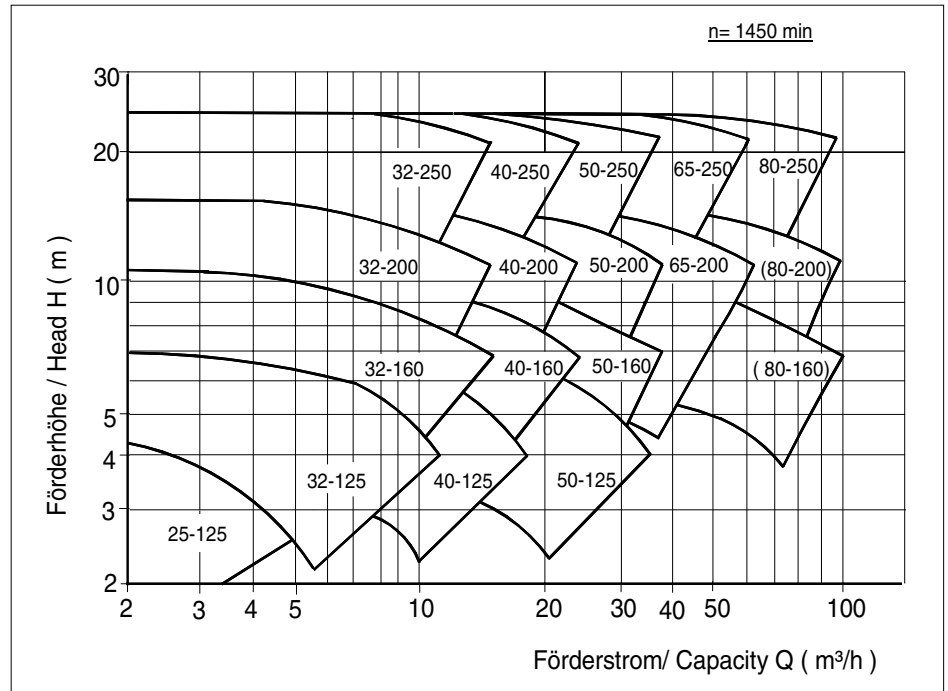


assembly opening
for 32-160 up to 80-250

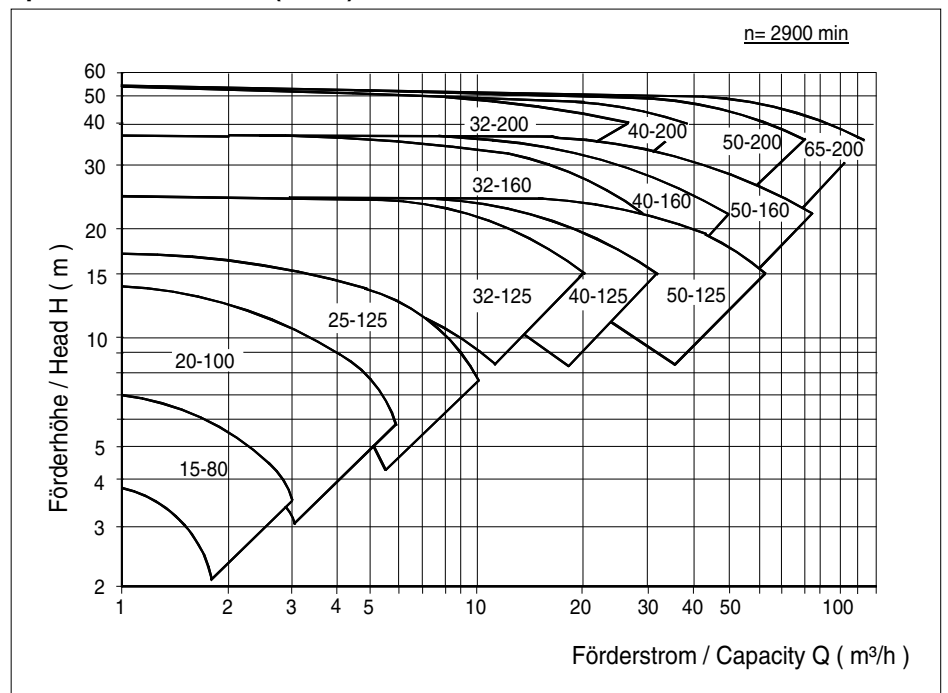


Performance curves ASV vertical chemical sump pumps

speed $n = 1450 \text{ min}^{-1}$ (50Hz)



speed $n = 2900 \text{ min}^{-1}$ (50 Hz)



$n = 2900 \text{ min}^{-1}$, for product line 200
submersion depth only up to 1250 mm

Technical alterations excepted