



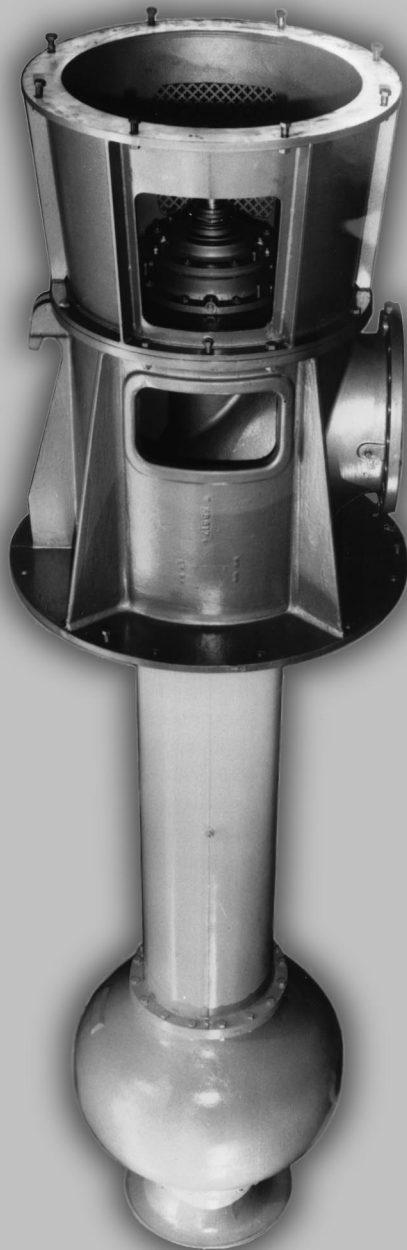
RUHRPUMPEN GMBH

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is approved by LRQA/NACCB
and certified
to ISO 9001.



Approval-Number 920 696

Mixed Flow Pumps TR



- Vertical Arrangement
- Single Stage, Single Entry
- Impeller Submerged
- Motor Mounted Above Floor

Performance Range

Capacity	Q	500 to 7000 m ³ /h
		2200 to 31000 gpm
Head	H	10 to 100 m
		33 to 330 feet
Speed	n	up to 1800 min ⁻¹
Temperature	t	up to 80° C
Pump Discharge Pressure	p _d	up to 10 bar
		up to 146 psi
Discharge Branch Size	DN _d	300 to 700 mm
		12 to 28"

Range of Application

TR-Pumps are multi-purpose vertical centrifugal pumps with submerged pump part and internally arranged wet shafting for pumping clean and pre-cleaned liquids in industrial and municipal water supply, water treatment and pressure increasing plants, irrigation, sprinkler and drainage-pump stations, process water and cooling water circulation systems for river water and seawater, also in fire-fighting systems, etc.

- **Agricultural Technique**
- **Power Stations and Heating Power Stations**
- **Sugar Industry**
- **Pipeline Technology**
- **Dock Construction**
- **Chemical/Petrochemical Industry**
- **Iron and Steel Industry**
- **Water Works**
- **Water Lifting Stations**

- **Agricultural Technique**
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- **Sugar Industry**
- **Pipeline Technology**
- **Dock Construction**

capacity range up to 7000 m³/h, i.e. 30 800 gpm. So they supplement the selection chart of propeller pumps, type PV.

The basic programme offers exclusively single stage pumps. It comprises of 26 sizes with only 8 thrust and radial bearings, for the given speeds shown on the selection charts and characteristic curves.

Other speeds are possible on request.

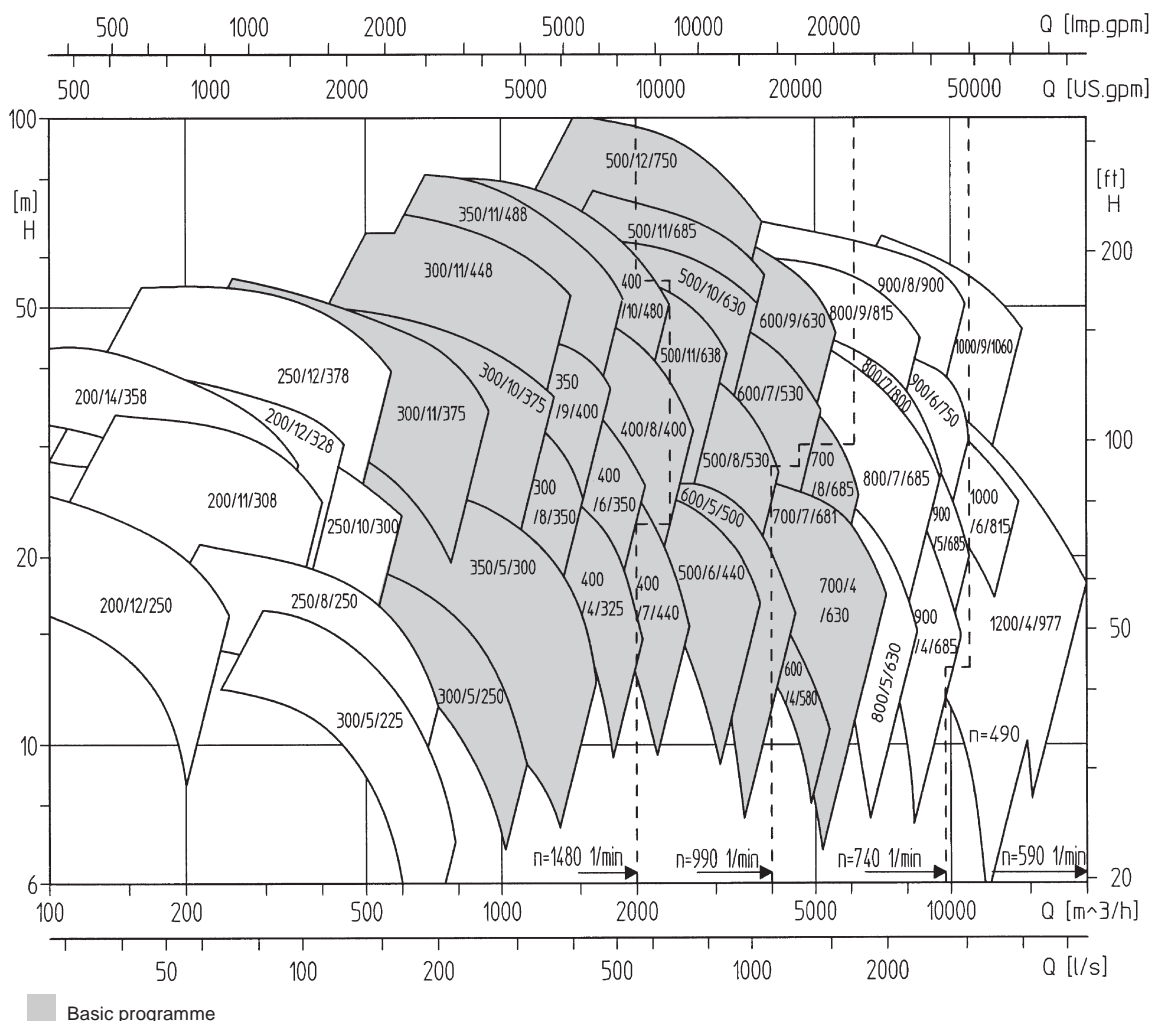
Pump Range

The TR-range with their submerged pump parts supplements the ranges SO-Standard/SDO. The performance curves partly overlap with the above mentioned range. The basic TR pumps already operate with a head range of 10 m and with a

Due to the wet pit mounting of the below floor part of the pump and arrangement of the impeller below the suction side liquid level the TR pumps are always ready for starting and operation without any auxiliary devices. The often necessary suction operation used with centrifugal pumps is completely eliminated.

Selection Chart

$n = 1480 / 990 / 740 \text{ min}^{-1} (590 \text{ min}^{-1})$



The variable suspended length of the parts below ensures a flood free easily accessible installation of the driving motor.

The range has been developed in accordance with the latest hydrodynamic design and manufacturing techniques.

In particular it features robust and well proven design elements, using a modular principle to reduce the number of individual parts.

It also features the use of mechanical similitude to safeguard the hydrodynamic values for higher requirements.

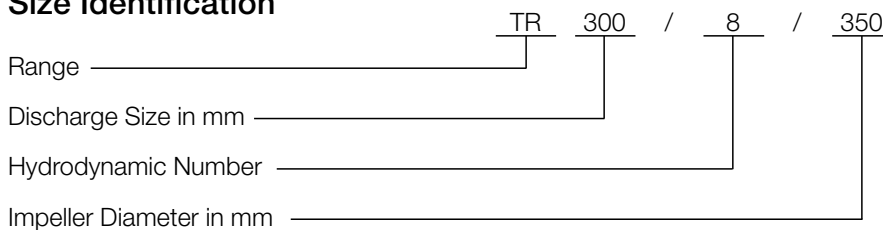
dimensions below floor the location and number of intermediate flanges can be obtained, and also the number of guide bearings and muff couplings in the pumped liquid.

Pump Casing

The pump part comprises of flanged inlet bellmouth with cast on cover and double curvature guide vane casing (see cross sectional drawings). In the channels formed by the guide vanes the velocity energy is transformed to pressure energy and the flow is led to the column pipe system.

The pump casing is connected to the column pipe system with a rigid, circular flange and connecting bolts.

Size Identification



Design Concept

The TR-Pumps comprise of the groups:

- Pump part
- Column pipe system
- Discharge casing or discharge bend
- and motor stool.

The selection of the pump is obtained from the selection chart according to frequency of 50 or 60 cycles, i.e. the standard speeds as indicated.

For each duty point all hydrodynamic data can be obtained from the characteristic curves, especially efficiency, power at pump shaft and the necessary minimum liquid level above the bellmouth of the pump part H_ü.

From the unit dimensions table for each size the dimensions of the pump part, the corresponding column pipe system can be obtained, as well as the discharge casing (up to DN 400) or the discharge bend (DN 500 to DN 700).

Furthermore, the dimensions are listed of the necessary motor stools

for the electric motors protection class IP 23 and IP 54, as well as, the main dimensions of the respective motors.

The suspended length L for the part below floor can be obtained from the ground level distance a, relating to site conditions or from the required liquid level above the bellmouth H_ü (see chapter performance curves) and the lowest liquid level on the suction side. The max. water level on the suction side should not exceed the level of the sole plate of discharge casing or discharge bend.

Pressure tight connections between the pumps and the foundation are available on request.

Within the given values for the suspended length all lengths L are available in increments of 100 mm.

Depending on the suspended length a column pipe A is provided with a welded on bearing spider or a column pipe B without a bearing spider or a combination of A- and B-pipes. For longer suspended lengths an additional standard section C is provided with a welded on bearing spider.

The sectioning of the below floor parts allows also easy assembly of the pump parts on site, using suitable equipment. From the main

Materials

Standard design:

Cast iron GJL-250

Special design:

Austenitic cast iron
GGG-NiCrNb 20 2

Column Pipes

The column pipe comprises of adapter flanged pipes with welded on bearing spiders (A- and C-Pipes), or column pipe without bearing spider (B-Pipe).

The maximum sectional length of the pipe is so selected, that the natural frequency of the pump shaft is at least 30% above the operating speed.

Material

Welded steel S 235 JR

Discharge Casing/ Discharge Bend

Discharge casing and discharge bend are fitted with a cast on mounting to accommodate the motor stool.

The mounting is so dimensioned, that the foundation opening for the removing of the pump casing is safely bridged and taking into consideration the motor stool and driving motor an operation below the natural frequency of the total above floor part is ensured.

Discharge casings are built relatively low. They are fitted with rectangular sole plates. Discharge bends are shaped according to standard pipe bends. The connection to the foundation is achieved through an amply dimensioned round flange.

Materials

Standard design:

Cast iron GJL-250

Special design:

Austenitic cast iron
GGG-NiCrNb 20 2

Flange

Flange connection size according to DIN 2501 / ISO 7005 PN 10 (see tables "Unit dimensions").

Pump Test Pressure

All pressure parts of the pump will be tested to 1,5 times of the pump discharge pressure acc. to the relevant duty condition, however not higher than 15 bar corresponding to 1,5 times the flange nominal pressure rating PN 10 according to the tables "Unit dimensions".

The pump discharge pressure is calculated considering the density ρ from the zero flow head H_0 minus the level difference between the middle of discharge connection and suction side liquid level.

Case Wear Rings

The guide vane casing as well as the inlet bellmouth are protected by means of removable case wear rings. The clearances of the case wear

rings can be obtained from the table "Technical Data".

Materials

Standard design:

Bronze CuSn7Zn4Pb7-C-GZ

Special design:

Cast chrome steel G - X 20 Cr 14,

alternatively

Cast chrome nickel steel
G - X 5 CrNiMo 19-11-2

Impeller

Single entry, closed, single piece cast impeller with balance holes close to the hub and radial clearance areas on both sides of the impeller, with excellent cutting characteristic.

To ensure that a smooth running is achieved, the impeller is dynamically balanced.

To increase the range of application and to achieve energy savings there are further impellers available.

Material Table

Part No.	Description	Standard Design W 1	with Chrome Steel Rotor W 2	Sea Water Design W 3
230	Impeller	Cast Iron GJL - 250	Cast Chrome Steel G-X 20 Cr 14	Cast Chrome Nickel Steel G-X 6 Cr Ni N 26-7
502	Case Wear Ring	Bronze CuSn 7 Zn 4 Pb7-C-GZ	Cast Chrome Steel G-X 20 Cr 14	Cast Chrome Nickel Steel G-X 5 Cr Ni Mo 19-11-2
112 115 138 144	Guide Vane Casing Discharge Casing Bellmouth Discharge Bend	Cast Iron GJL-250		Austenit. Cast Iron GGG-Ni Cr Nb 20 2
711 341	Column Pipe Motor Stool	Steel S 235 JR		Steel S 235 JR with two coats of Epoxy Resin Paint
211 212 213	Pump Shaft Intermediate Shaft Top Shaft	Steel C 45	Chrome Steel X 17 Cr Ni 16-2	Chrome Nickel Steel X 5 Cr Ni Mo 17-12-2
524	Shaft Sleeve	Cast Chrome Steel G-X 20 Cr 14	Cast Chrome Steel G-X 22 Cr Ni 17	Cast Chrome Nickel Steel G-X 5 Cr Ni Mo 19-11-2
545	Bearing Bush	Silicon Carbide		
853	Muff Coupling	Spheroidal Iron GJS-400-15	Cast Chrome Steel G-X 22 Cr Ni 17	Cast Chrome Nickel Steel G-X 5 Cr Ni Mo 19-11-2
	Bolts / Nuts	Steel		Chrome Nickel Steel A 4

Other materials on request

Materials

Standard design:

Cast iron GJL-250

Special design:

Cast chrome steel

G-X 20 Cr 14,

alternatively

Cast chrome nickel steel

G-X 6 Cr Ni N 26-7

Shaft Sealing

The standard design is fitted with soft packed stuffing box. The shaft is protected by a shaft sleeve in the region of the packing. Lubrication of the stuffing box is directly achieved by the pumped liquid. Dimensions of the stuffing boxes can be obtained from the table "Technical Data".

Pumps with external stuffing box lubrication can be supplied on request.

Materials

Standard design:

Shaft sleeve

Cast chrome steel G-X 20 Cr 14

Gland

Cast iron GJL-250

Special design:

Shaft sleeve

Cast chrome steel

G-X 22 Cr Ni 17,

alternatively

Cast chrome nickel steel

G-X 5 Cr Ni Mo 19-11-2

Gland

Cast chrome steel

X 17 Cr Ni 16-2

alternatively

Austenitic cast iron

GGG-NrCrNb 20 2

Pumps with mechanical seals instead of soft packed stuffing boxes can be supplied on request.

Bearings

Short TR-Pumps are fitted with a one piece shaft, which is supported by a bearing of silicon carbide which is located in the guide vane casing lubricated by the pumped liquid and

on the other hand supported outside of the pump by means of a grease lubricated thrust and radial bearing (see cross sectional drawings). The thrust and radial bearing design ensures that the functions of the radial bearing are clearly separated from the axial bearing.

Furthermore the bearing geometry ensures that the bearings oscillate and adjust in the inclined position of the shaft. Selection of the bearings refer to table "Technical Data".

The thrust and radial bearing is fitted with an adjustable arrangement for axial setting. The pump shafts are turned along the length to avoid distortion through stress. Removable shaft sleeves are provided in the region of the stuffing box and the guide bearings.

The shafts are in relation to the occurring torque amply sized. The maximum length is limited to below critical speed, to keep the natural frequency of the shaft high enough above the pump operating speed. For longer suspended lengths the pumps are fitted with intermediate bearings and with muff

Material Comparison List

Material	German Standard	Material No.	American Standard	British Standard
Cast Iron GJL-250	EN 1561	JL 1040	ASTM A 48-40 B	BS 1452-260
Spheroidal Iron GJS-400-15	EN 1563	JS 1030	ASTM A 536-60-40-18	BS 2789-420/12
Austenit. Cast Iron GGG-Ni Cr Nb 20 2	DIN 1694	0.7659	ASTM A 439-D-2 W	BS 3468-S-NiCrNb 20 2
Bronze CuSn 7 Zn 4 Pb7-C-GZ	EN 1982	CC 493 K-GZ	ASTM B 584 UNSC 93200	BS 1400-LG3
Steel S 235 JR	EN 10025	1.0037	ASTM A 283 Grade C	BS 4360 A+B/40
Steel C 45	EN 10083	1.0503	ASTM A 576-1045	BS 970/1-080 M 46
Chrome Steel X 17 Cr Ni 16-2	EN 10088	1.4057	ASTM A 276-431	BS 970/4-431 S 29
Chrome Nickel Steel X 5 Cr Ni Mo 17-12-2	EN 10088	1.4401	ASTM A 276-316	BS 970-316 S 16
Cast Chrome Steel G-X 20 Cr 14	SEW 410	1.4027	ASTM A 743-CA-40	BS 3146/2-ANC 1
Cast Chrome Steel G-X 22 Cr Ni 17	SEW 410	1.4059	ASTM A 743-CB-30	BS 1504-420 C 29
Cast Chrome Nickel Steel G-X 5 Cr Ni Mo 19-11-2	EN 10283	1.4408	ASTM A 743-CF-8M	BS 3100-316 C 16
Cast Chrome Nickel Steel G-X 6 Cr Ni N 26-7	EN 10283	1.4347	ASTM A 743-CD-4 MCJ	BS 3100-347 C 17

couplings. The number of intermediate bearings and muff couplings is dependent on the suspended length of the pump (see unit dimensions tables).

The maximum transmittable torque is limited by the relation P/n of the muff coupling (see table "Technical Data").

The intermediate bearings are so designed, that at start-up the bearings which are located above the liquid level can run dry until they are lubricated by the pumped liquid. Prelubrication is not required.

Materials

Standard design:

Shaft
Steel C 45

Muff coupling
Cast spheroidal iron
GJS-400-15

Shaft sleeve
Cast chrome steel
G-X20Cr14

Special design:

Shaft
Chrome steel X 22 CrNi 17,

alternatively

Chrome nickel steel
X 5 CrNiMo 17-12-2

Muff coupling
Cast chrome steel G - X 22 CrNi 17,

alternatively

Cast chrome nickel steel
G - X 5 CrNiMo 19-11-2

Shaft sleeve
Cast chrome steel G - X 22 CrNi 17,

alternatively

Cast chrome nickel steel
G - X 5 CrNiMo 19-11-2

Coupling, Coupling Guard

Flexible coupling with rubber or steel elements manufactured to high accuracy. The coupling guard is in the scope of supply and conforms to appropriate safety standards.

Direction of Rotation

Viewed from the driver side clockwise.

Foundation

The arrangement of the pumps is achieved on a statically and dynamically amply dimensioned concrete cover with foundation openings to accommodate the foundation components (see tables unit dimensions).

For discharge casings (nominal flange connections DN 300 up to 400) 2 foot plates with alignment screws will be supplied. For discharge bends (nominal flange connections DN 500 to DN 700) a mounting plate with foundation bolts and alignment screws will be supplied.

After alignment the foundation parts must be skillfully grouted. Mounting of the pumps on steel structures is possible on request.

Motor Stool

The motor stool serves as the mechanical connection between the discharge casing or discharge bend and the motor furthermore, it accommodates the thrust and radial bearing and acts as a casing for the flexible coupling.

The motor stool is so designed that all loads and moments from the motor can be safely transferred. It also determines the natural frequency of the above floor part. Motors listed in the tables unit dimensions have been proved to be suitable for the applications. Other motors are to be checked according to the table "Technical Data" for maximum motor

flange diameter, maximum height and maximum weight.

Motors exceeding these limits can only be used after proving by us.

Driver

Direct drive via a flexible coupling through electric motors with fixed speed or variable speed. For higher than standard speeds the pumps are to be checked for shaft and unit critical speeds.

Selection of motors should be according to IEC-standards. Values outside the standard have to be checked individually.

Performance Curves

TR-Pumps have stable characteristic curves. They can operate above the minimum of the operating range, provided the motor is sufficiently sized and the minimum liquid level $H_{\text{ü}}$ on site does not fall below the value required by the pumps - based on 20 °C and sealevel. The safety margin should be a minimum of 0.5 m. Below the minimum of the operating range the pumps can work in exceptional cases for a short time.

All pumps can operate at different speeds to those shown. The hydrodynamic values are to be calculated in accordance with the recognized law of similitude. For higher speeds it is necessary to check the pumps.

The performance curves are based on a liquid density of 1 kg/dm³. For densities below or above 1 it is necessary to multiply the power by the given density.

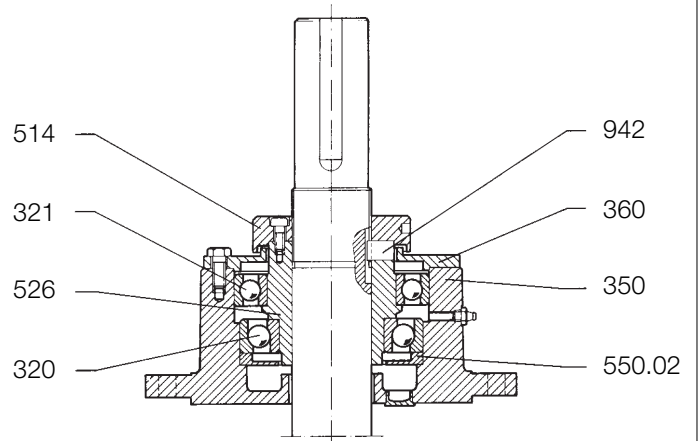
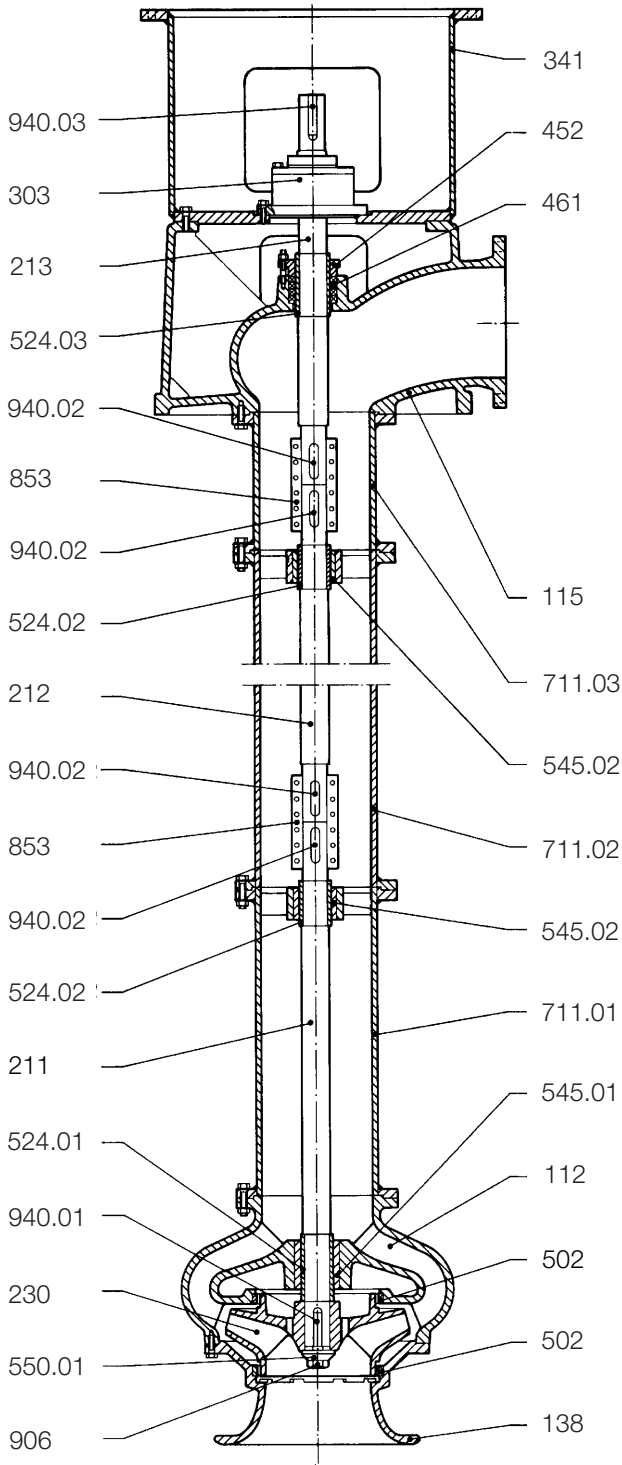
For sizing of the drivers it is necessary to add a minimum of 10 to 15% to the pump absorbed power.

Depending on operating conditions, eventually a higher factor could be necessary. Thereby the maximum power requirements for the pump at the selected impeller diameter is to be considered. Shafts, bearings and intermediate couplings must be

TR

Cross Sectional Drawing

(DN 300/DN 350/DN 400)



Thrust and radial bearing
grease lubricated

Part No.	Description	Part No.	Description
112	Guide Vane Casing	524.01	Shaft Sleeve (Bearing)
115	Discharge Casing	524.02	Shaft Sleeve (Bearing)
138	Bellmouth	524.03	Shaft Sleeve (Packing)
211	Pump Shaft	526	Centering Sleeve
212	Intermediate Shaft	545.01	Bearing Bush
213	Top Shaft	545.02	Bearing Bush
230	Impeller	550.01	Disc
303	Thrust and Radial Bearing	550.02	Disc
320	Anti-friction Bearing	711.01	Column Pipe, A-Pipe
321	Radial Ball Bearing	711.02	Column Pipe, C-Pipe
341	Motor Stool	711.03	Column Pipe, B-Pipe
350	Bearing Housing	853	Muff Coupling
360	Bearing Cover	906	Impeller Screw
452	Gland	940.01	Fitting Key
461	Gland Packing	940.02	Fitting Key
502	Case Wear Ring	940.03	Fitting Key
514	Threaded Ring	942	Wedge

checked for densities in excess of 1.05 kg/dm³.

All pump curves are based on a kinematic viscosity of 1 mm²/s. For higher viscosities correction factors are to be considered.

To achieve good running behavior the inlet chamber should be twice as wide and six times as long as the diameter of the pump casing D_p. Furthermore, installations, such as straightening vanes on the back wall, rounding of corners etc. improve the conditions further. The back wall distance should be 1 times D_p.

Sound Emission

Sound pressure levels shown in table "Technical Data" apply to pump operation at optimum with the largest impeller diameter and at the related speed - without considering the sound pressure levels of the drive motor - for the parts above floor of the pump.

At partial load and at an overload operation the sound pressure level increases by up to 2 dB.

With a reduced impeller diameter the sound pressure level drops by up to 1 dB.

The calculations for noise levels L_{WA} are in accordance with VDI 3743, DIN 45635 and ISO 3744.

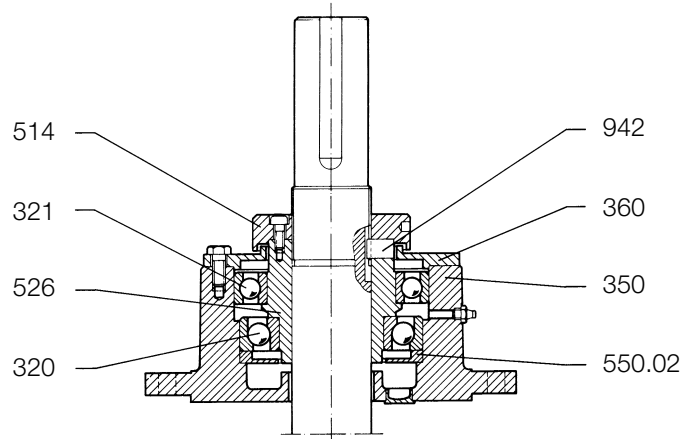
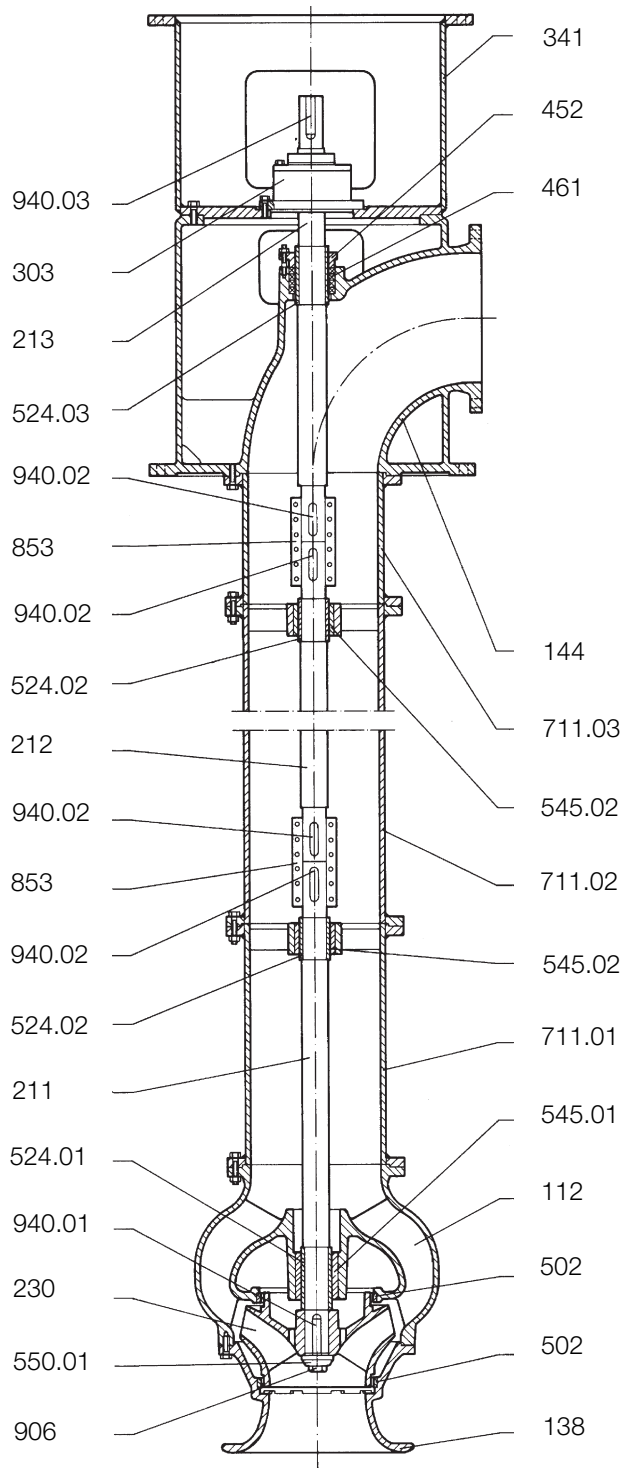
Extended Programme

- **TR-Pumps from the standard range with multi-stage pump parts**
- **TR-Pumps with capacities up to 32000 m³/h, i.e. 130 000 gpm in all cast materials**
- **TR-Pumps with shaft protecting pipes, grease lubricated bronze bearings or water lubricated rubber or synthetic or metal bearings within the pump. Thrust and radial bearings grease or oil lubricated. With and without bearing cooling. Also installation of sleeve bearings possible. Stuffing boxes with an external supply or mechanical seals**
- **TR-Pumps with separate motor support by means of motor frame, motor support cover etc.**
- **TR-Pumps with withdrawable rotor**
- **TR-Pumps with discharge connection below floor**
- **TR-Pumps driven via gearboxes or rightangle gearboxes for horizontal drivers**
- **TR-Pumps in cans for pumping light evaporating or inflammable liquids**
- **TR-Pumps for pumping of abrasive liquids**
- **TR-Pumps with submersible motors, type TRT**

TR

Cross Sectional Drawing

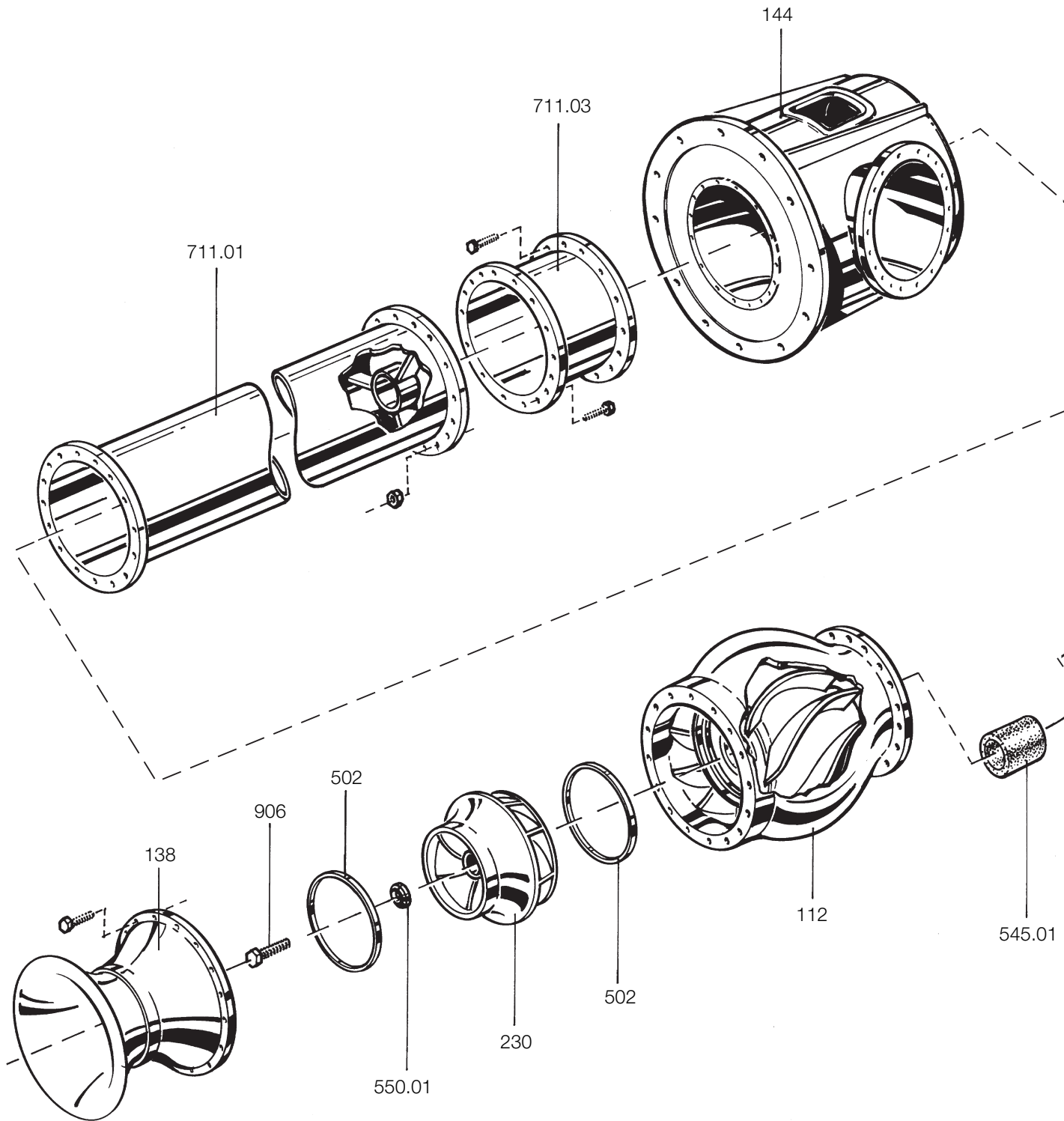
(DN 500/DN 600/DN 700)

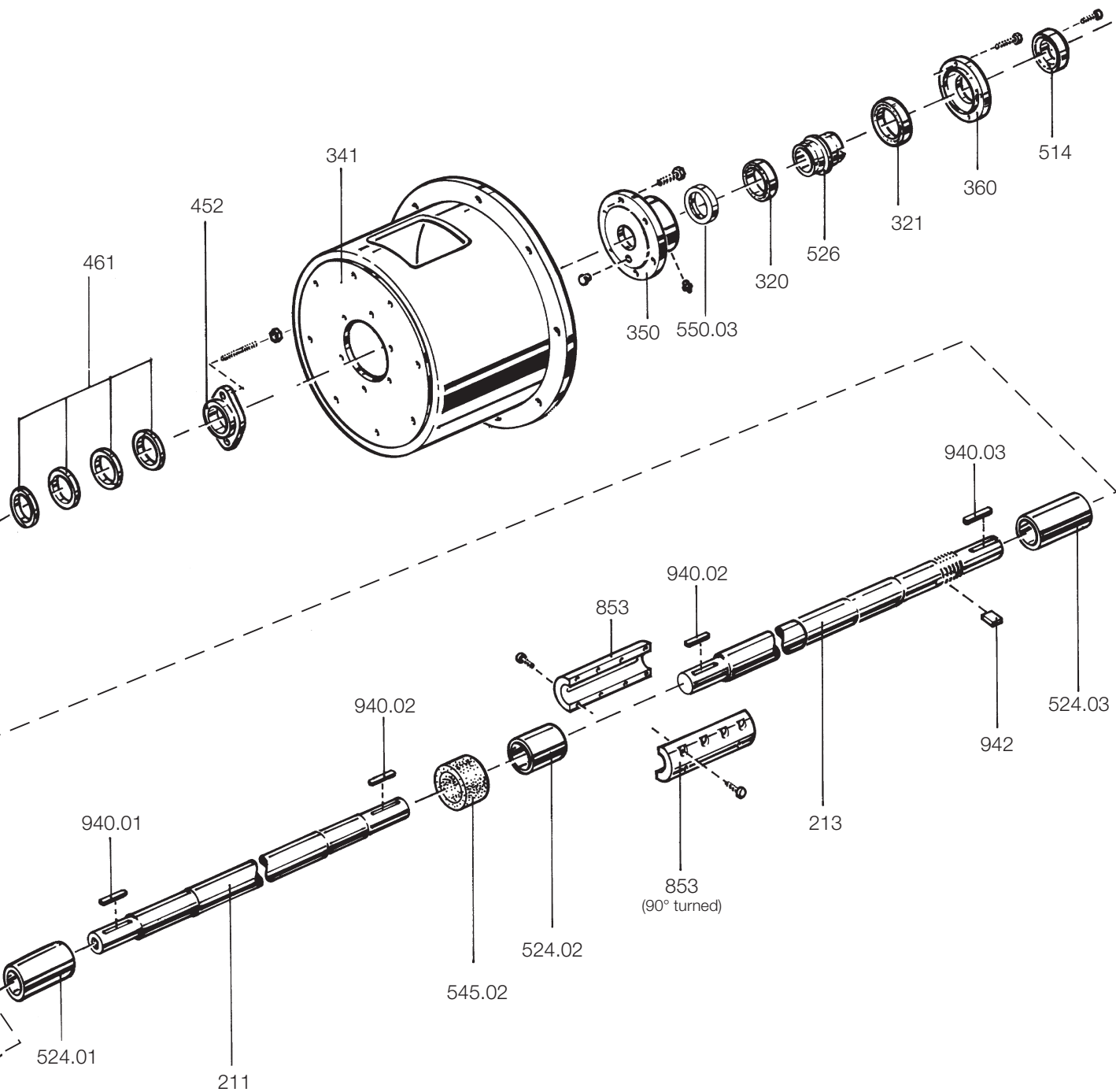


Thrust and radial bearing
grease lubricated

Part No.	Description	Part No.	Description
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138	Bellmouth	524.02	Shaft Sleeve (Bearing)
144	Discharge Bend	524.03	Shaft Sleeve (Packing)
211	Pump Shaft	526	Centering Sleeve
212	Intermediate Shaft	545.01	Bearing Bush
213	Top Shaft	545.02	Bearing Bush
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461	Gland Packing	940.02	Fitting Key
502	Case Wear Ring	940.03	Fitting Key
514	Threaded Ring	942	Wedge

Exploded View





Part No.	Description	Part No.	Description	Part No.	Description	Part No.	Description
112	Guide Vane Casing	321	Radial Ball Bearing	524.01	Shaft Sleeve	711.01	Column Pipe, A-Pipe
138	Bellmouth	341	Motor Stool	524.02	Shaft Sleeve	711.03	Column Pipe, B-Pipe
144	Discharge Bend	350	Bearing Housing	524.03	Shaft Sleeve	853	Muff Coupling
211	Pump Shaft	360	Bearing Cover	526	Centering Sleeve	906	Impeller Screw
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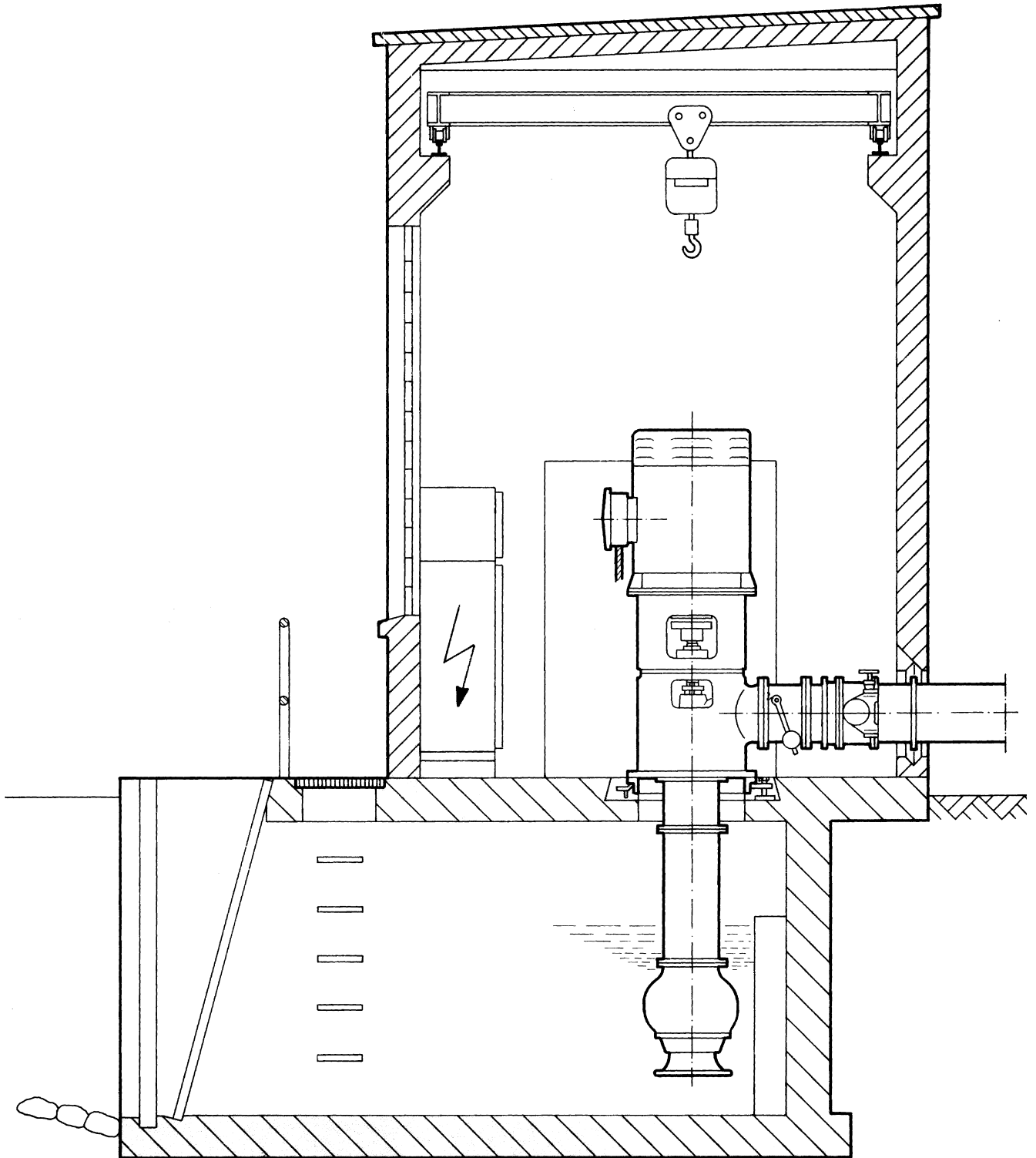
“Technical Data”

Unit Size	Muff Coupling			Impeller		Antifriction Bearing ¹⁾		Soft Packed – Stuffing Box				No. of Rings	Moment of Inertia		Sound		Motor				
	$d_k^{2)}$ ø	Speed	Max. allow. P/n	Wear Ring Clearance	Solids Size ²⁾	Radial Bearing	Axial-Bearing	Shaft Sleeve ø	Bore	Length	Packing Width		Impeller with Water	Extra for m suspended Length	Measuring Surface Sound Unit L _S	Sound Pressure Level L _{pA}	Max. allow. Flange ø	Max. allow. Height	Max. allow. Weight		
	mm	min ⁻¹	$\frac{KW}{min^{-1}}$	mm	mm	No.	No.	mm	mm	mm	mm	–	kgm ²	kgm ²	dB	dB	mm	mm	kg		
300/5/250	40	1480	0,048	0,6	50	6016	7213 B	55	75	42	10	4	0,21	0,02	13,5	83	660	1500	1500		
300/8/350	60		0,14		60	6021	7217 B	75	95	42	10		1,0	0,03		83	1000	2000	2500		
300/10/375	60		0,14		55	6021	7217 B	75	95	42	10		0,9	0,03		83	660	1500	1500		
300/11/375	60		0,14	0,65	40	6021	7217 B	75	95	42	10		0,77	0,03		83	660	1500	1500		
300/11/448	60		0,14		45	6021	7217 B	75	95	42	10		1,5	0,03		84	1150	2200	3500		
350/5/300	50	1480	0,09	0,65	55	6018	7215 B	65	85	42	10	4	0,55	0,03	13,5	83	660	1500	1500		
350/9/400	70		0,21		55	6024	7219 B	90	115	50	12		0,72	0,05	14	84	800	1500	1500		
350/11/488	80		0,30		50	6026	7221 B	100	125	50	12		2,6	0,08	13,5	85	1150	2200	3500		
400/4/325	60	1480	0,14	0,6	70	6021	7217 B	75	95	42	10	4	0,85	0,03	13,5	83	660	1500	1500		
400/6/350	60			0,65	75								1,0		14	84	1000	2000	2500		
400/7/440	70	990	0,21	0,8	90	6024	7219 B	90	115	50	12	4	5,7	0,05	14,5	83	1150	2200	3500		
400/8/400	70		0,21		0,65			60					90				800	1600	1700		
400/10/480	80		0,30	80		6026	7221 B	100	125	2,5	0,08		14	86	1150	2200	3500				
500/6/440	80	990	0,30	0,65	105	6026	7221 B	100	125	50	12	4	3,9	0,08	15	85	1360	2400	5000		
500/8/530	90		0,52		90	6030	7224 B	110	142	67	16		6,5	0,12		86	1530	2800	7000		
500/10/630	100		0,71			95	6032	7226 B	130	170	84		20	9,2		0,22	87	1000	2000	2500	
500/11/638	90		0,52		60	6030	7224 B	110	142	67	16		8,0	0,12		1000		2000	2500		
500/11/685	100		0,79		70	6032	7236 B	130	170	84	20		11,1	0,22		1000		2000	2500		
500/12/750	110		1,18		55	6036	7228 B	140	181				18,8	0,26		1150		2200	3500		
600/4/580	80	990	0,30	0,8	110	6026	7221 B	100	125	50	12	4	5,1	0,08	14	83	800	1600	1700		
600/5/500		740			140								10,6			15	84	1360	2400	7000	
600/7/530	100	990	0,71		95	6032	7226 B	130	170	84	20		10,3	0,22	1000			3000	2500		
600/9/630	110	1,18	6036			7228 B	140	180	13,5				0,26	86	1150	2200	3500				
700/4/630	90	740	0,52		0,8	135	6030	7224 B	110	142	67		16	4	12,0	0,12	15	87	1360	2400	7000
700/7/681	110		1,18			105	6036	7228 B	140	180	84		20		23,3	0,26			1150	2200	3500
700/8/685			100	14,0																	

¹⁾ Equal to diameter at pump shaft end (D₁)

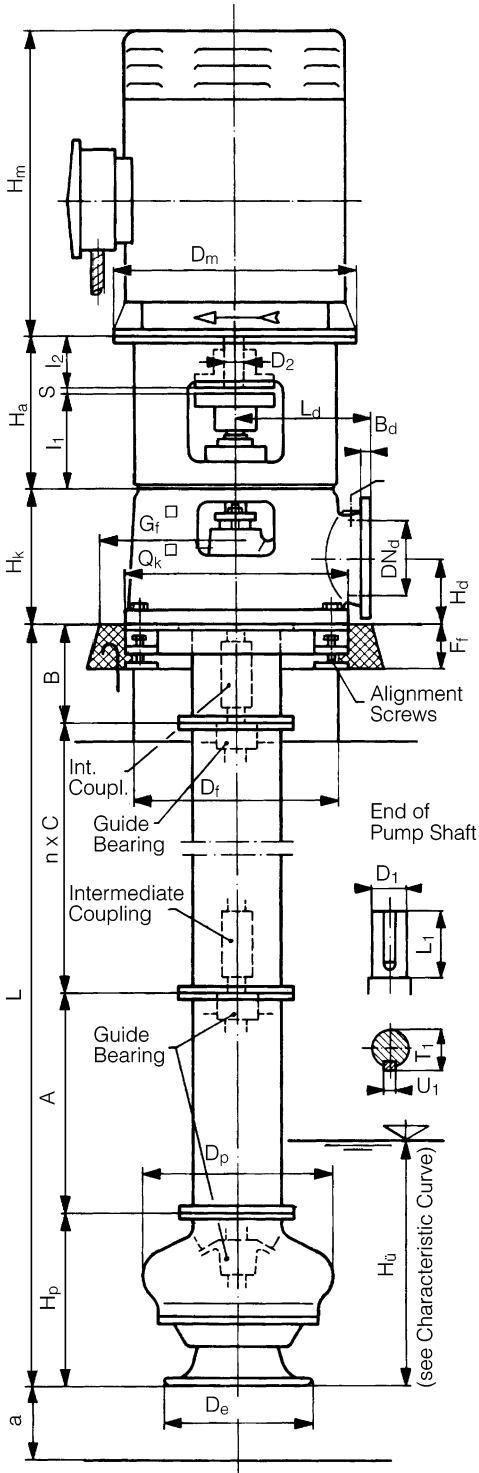
²⁾ Acc. to DIN/ISO

Installation Example



Unit Dimensions

(Dimensions in mm)



Shaft end acc. to DIN 748
 Fitting key and key way
 acc. to DIN 6885
 Foundation opening grouted
 after alignment

Main Dimensions – Above Floor

Pump Size	Flange ¹⁾ DIN 2501/ISO 7005			Discharge Casing						
	DN _d	PN	B _d	H _d	L _d	H _k	Q _k [□]	D _f	G _f [□]	F _f
300/5/250	300	10	28	250	500	550	860	750	1100	140

Motor ²⁾							Motor Stool						
Prot. Class	Power (kW)	Size	D _m	l ₂	D ₂	H _m	l ₁	S	H _a	D ₁	L ₁	T ₁	U ₁
IP 23	37	200 M	450	140	60	650	258	5	403	35	80	38	20
	45	200 L			65								
	55	255 M	550	65	730								
IP 54	37	225 S	450	140	60	740	258	5	403	35	80	38	20
	45	225 M			65								
	55	250 M	550	65	840								

¹⁾ Other flange designs on request

²⁾ Max. motor dimensions see table "Technical Data"

Main Dimensions – Below Floor

Pump Size	Pump Part			Ground Level Distance
	H _p	D _p	D _e	a
300/5/250	600	450	360	200

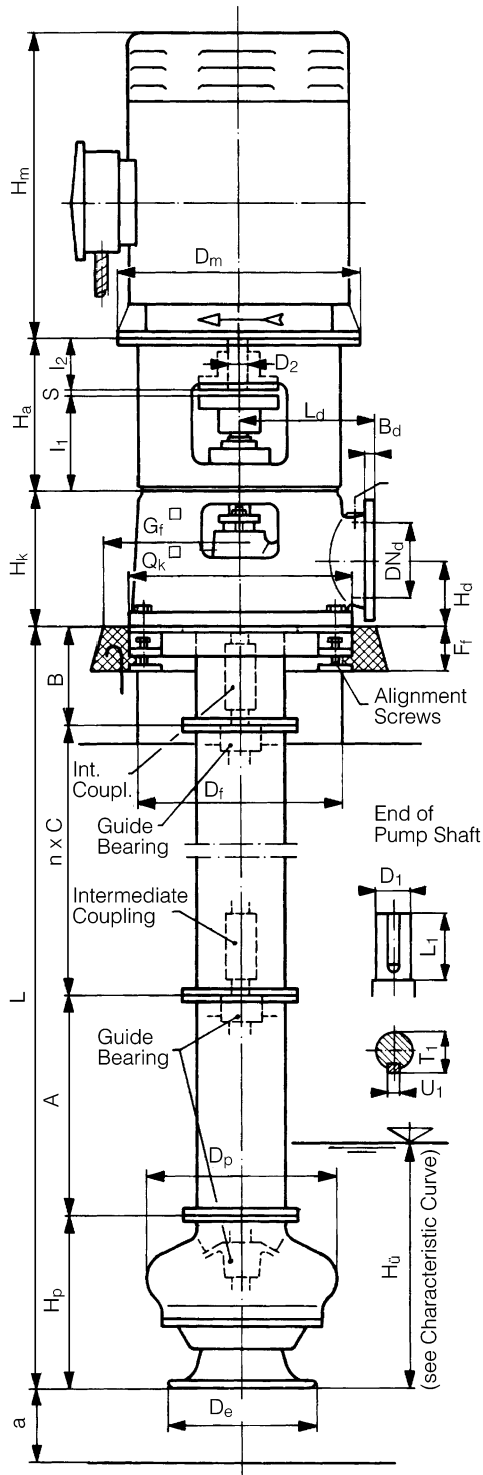
Susp. Length	Column Pipe Length ³⁾			Guide Bearings	Intern. Couplings	Susp. Length	Column Pipe Length ³⁾			Guide Bearings	Intern. Couplings
	L	A	B				n x C	Piece	Piece		
1400 to 1700	500	500	-	2	1	7800 to 9300	600 to 1300	500 to 900	4x1300 to 4x1600	6	5
1800 to 2900	500 to 1300	600 to 900	-	2	1						
3000 to 4500	800 to 1300	700 to 900	1x800 to 1x1600	3	2						
4600 to 6100	1100 to 1300	600 to 900	2x1100 to 2x1600	4	3						
6200 to 7700	900 to 1300	500 to 900	3x1200 to 3x1600	5	4						

³⁾ Increment = 100

Design subject to alteration

Unit Dimensions

(Dimensions in mm)



Shaft end acc. to DIN 748
 Fitting key and key way
 acc. to DIN 6885
 Foundation opening grouted
 after alignment

Main Dimensions – Above Floor

Pump Size	Flange ¹⁾ DIN 2501/ISO 7005			Discharge Casing						
	DN _d	PN	B _d	H _d	L _d	H _k	Q _k ²⁾	D _f	G _f ²⁾	F _f
300/8/350	300	10	28	250	500	550	860	750	1100	140

Motor ²⁾							Motor Stool									
Prot. Class	Power (kW)	Size	D _m	l ₂	D ₂	H _m	I ₁	S	H _a	D ₁	L ₁	T ₁	U ₁			
IP 23	132	280 M	660	170	80	880	345	5	520	60	140	64	18			
	160	315 S												90	1000	
	200	315 M														
	250	315 M/1														
	315	315 M/1														
IP 54	132	315 M	660	170	80	1050	345	5	520	60	140	64	18			
	160	315 M/1												100	1220	
	200	315 M/2														1280
	250	355 S														
	315	355 M														

¹⁾ Other flange designs on request

²⁾ Max. motor dimensions see table "Technical Data"

Main Dimensions – Below Floor

Pump Size	Pump Part			Ground Level Distance
	H _p	D _p	D _e	a
300/8/350	700	620	490	250

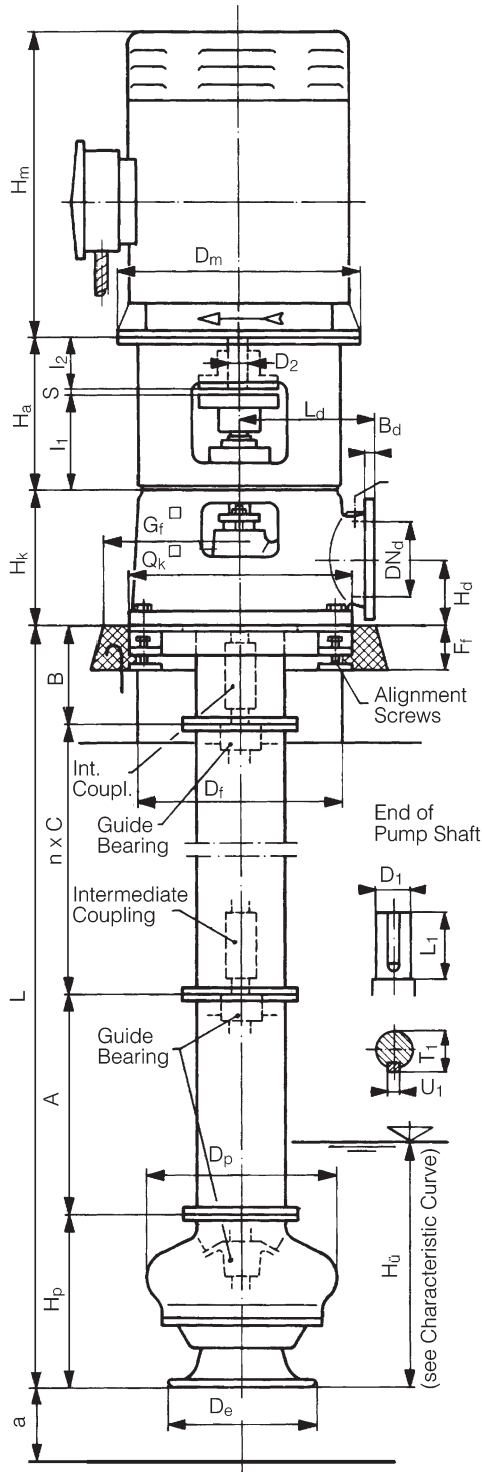
Susp. Length	Column Pipe Length ³⁾				Guide Bearings	Intern. Couplings	Susp. Length	Column Pipe Length ³⁾				Guide Bearings	Intern. Couplings
	L	A	B	n x C				Piece	Piece	L	A		
2200 to 2400	1500 to 1700	-	-	-	2	0	5200 to 5700	1200 to 1700	1300	1x2000	3	2	
2500 to 3100	1100 to 1700	700	-	2	1		5800 to 6400	1100 to 1700	-	2x2000	4	2	
3200 to 3700	1200 to 1700	1300	-	2	1		6500 to 7100	1100 to 1700	700	2x2000	4	3	
3800 to 4400	1100 to 1700	-	1x2000	3	1		7200 to 7700	1200 to 1700	1300	2x2000	4	3	
4500 to 5100	1100 to 1700	700	1x2000	3	2		7800 to 8400	1100 to 1700	-	3x2000	5	3	

³⁾ Increment = 100

Design subject to alteration

Unit Dimensions

(Dimensions in mm)



Shaft end acc. to DIN 748
 Fitting key and key way acc. to DIN 6885

Foundation opening grouted after alignment

Main Dimensions – Above Floor

Pump Size	Flange ¹⁾ DIN 2501/ISO 7005			Discharge Casing						
	DN _d	PN	B _d	H _d	L _d	H _k	Q _k [□]	D _f	G _f [□]	F _f
300/10/375	300	10	28	250	500	550	860	750	1100	140

Motor ²⁾							Motor Stool						
Prot. Class	Power (kW)	Size	D _m	l ₂	D ₂	H _m	I ₁	S	H _a	D ₁	L ₁	T ₁	U ₁
IP 23	132	280 M	660	170	80	880	345	5	520	60	140	64	18
	160	315 S			950								
	200	315 M	90										
	250	315 M/1	1000										
IP 54	132	315 M	660	170	80	1050	345	5	520	60	140	64	18
	160	315 M/1			100								
	200	315 M/2	1220										
	250	355 S	1220										

¹⁾ Other flange designs on request

²⁾ Max. motor dimensions see table "Technical Data"

Main Dimensions – Below Floor

Pump Size	Pump Part			Ground Level Distance
	H _p	D _p	D _e	a
300/10/375	700	610	420	250

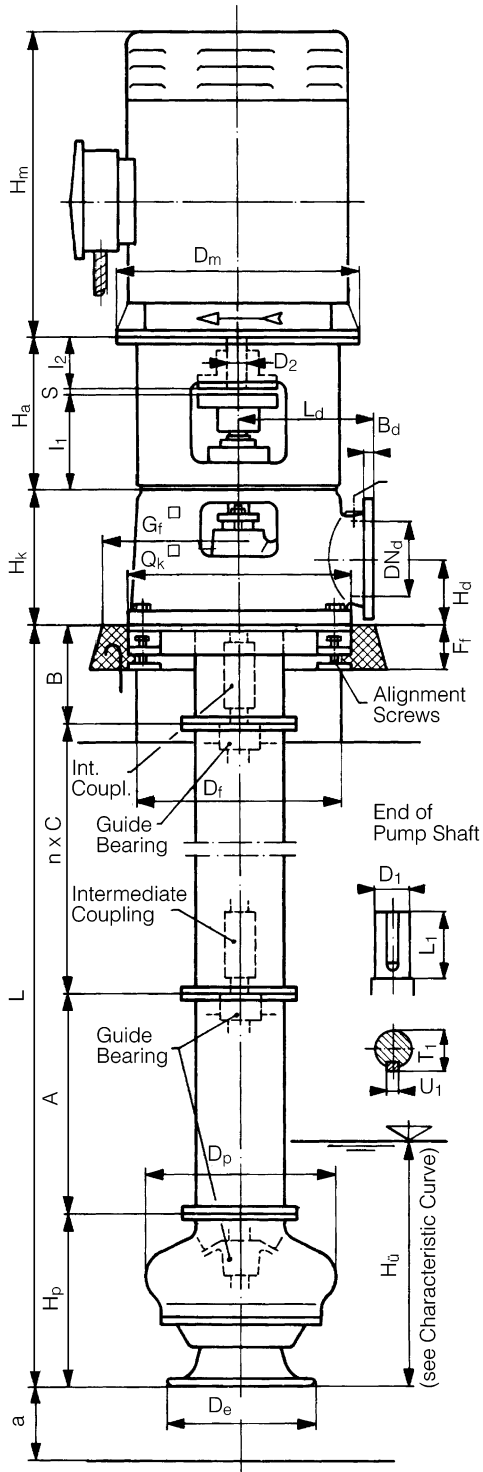
Susp. Length	Column Pipe Length ³⁾				Guide Bearings	Intern. Couplings	Susp. Length	Column Pipe Length ³⁾				Guide Bearings	Intern. Couplings
	L	A	B	n x C				Piece	Piece	L	A		
2200 to 2400	1500 to 1700	-	-	-	2	0	5200 to 5700	1200 to 1700	1300	1x2000	3	2	
2500 to 3100	1100 to 1700	700	-	-	2	1	5800 to 6400	1100 to 1700	-	2x2000	4	2	
3200 to 3700	1200 to 1700	1300	-	-	2	1	6500 to 7100	1100 to 1700	700	2x2000	4	3	
3800 to 4400	1100 to 1700	-	1x2000	-	3	1	7200 to 7700	1200 to 1700	1300	2x2000	4	3	
4500 to 5100	1100 to 1700	700	1x2000	-	3	2	7800 to 8400	1100 to 1700	-	3x2000	5	3	

³⁾ Increment = 100

Design subject to alteration

Unit Dimensions

(Dimensions in mm)



Shaft end acc. to DIN 748
 Fitting key and key way
 acc. to DIN 6885
 Foundation opening grouted
 after alignment

Main Dimensions – Above Floor

Pump Size	Flange ¹⁾ DIN 2501/ISO 7005			Discharge Casing						
	DN _d	PN	B _d	H _d	L _d	H _k	Q _k [□]	D _f	G _f [□]	F _f
300/11/375	300	10	28	250	500	550	860	750	1100	140

Motor ²⁾							Motor Stool						
Prot. Class	Power (kW)	Size	D _m	l ₂	D ₂	H _m	l ₁	S	H _a	D ₁	L ₁	T ₁	U ₁
IP 23	55	225 M	550	140	65	730	336	5	481	60	140	64	18
	75	250 S											
	90	250 M	900										
	110	280 S		1090									
132	280 M	170											
IP 54	55	250M	550	140	65	830	336	5	481	60	140	64	18
	75	280 S											
	90	280 M	1050										
	110	315 S		80	1220								
	132	315 M	170										

1) Other flange designs on request

2) Max. motor dimensions see table "Technical Data"

Main Dimensions – Below Floor

Pump Size	Pump Part			Ground Level Distance
	H _p	D _p	D _e	a
300/11/375	570	581	420	250

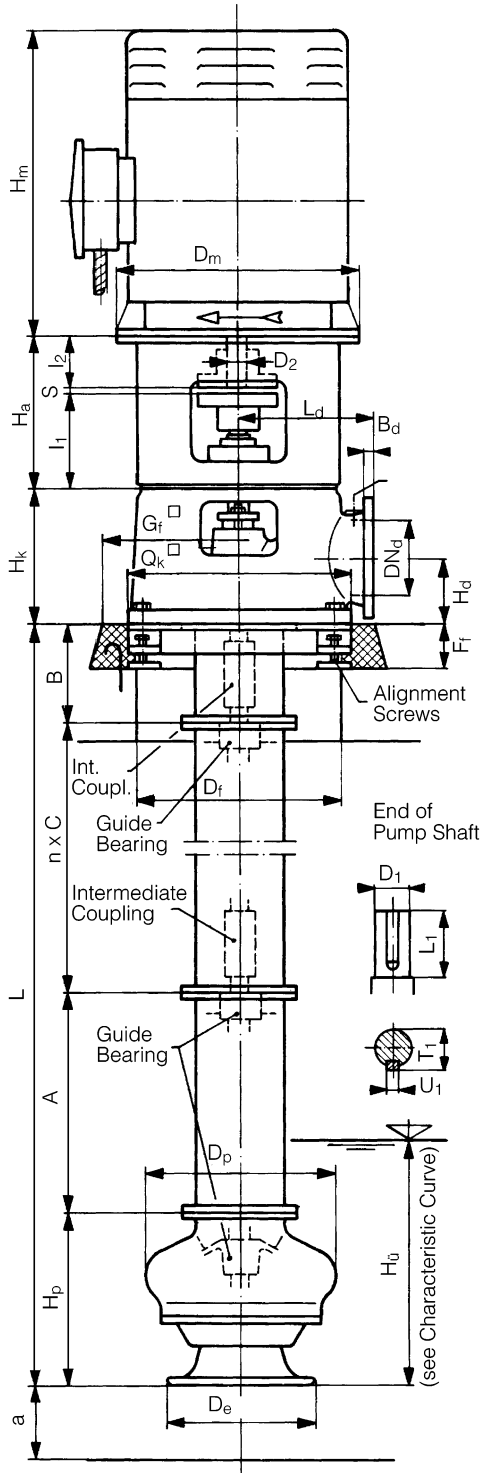
Susp. Length	Column Pipe Length ³⁾				Guide Bearings	Intern. Couplings	Susp. Length	Column Pipe Length ³⁾				Guide Bearings	Intern. Couplings
	L	A	B	n x C				Piece	Piece	L	A		
2000 to 2400	500	900 to 1300	-	-	2	1	5800 to 7700	1500 to 1800	700 to 1300	2x1500 to 2x2000	4	3	
2500 to 2800	1400	500 to 800	-	-	2	1	7800 to 9700	1600 to 1800	700 to 1300	3x1600 to 2000	5	4	
2900 to 3700	1800	500 to 1300	-	-	3	2							
3800 to 4500	1300	500 to 1300	1x1300	-	3	2							
4600 to 5700	700 to 1700	500 to 1300	1x1700 to 1x1800	-	3	2							

3) Increment = 100

Design subject to alteration

Unit Dimensions

(Dimensions in mm)



Shaft end acc. to DIN 748

Fitting key and key way

acc. to DIN 6885

 Foundation opening grouted
after alignment

Main Dimensions – Above Floor

Pump Size	Flange ¹⁾ DIN 2501/ISO 7005			Discharge Casing						
	DN _d	PN	B _d	H _d	L _d	H _k	Q _k [□]	D _f	G _f [□]	F _f
300/11/448	300	10	28	250	500	550	860	750	1100	140

Motor ²⁾							Motor Stool								
Prot. Class	Power (kW)	Size	D _m	l ₂	D ₂	H _m	l ₁	S	H _a	D ₁	L ₁	T ₁	U ₁		
IP 23	132	280 M	660	170	80	880	345	5	520	60	140	64	18		
	160	315 S												90	
	200	315 M													1000
	250	315 M/1													
315	315 M/1														
IP 54	132	315 M	660	170	80	1050	345	5	520	60	140	64	18		
	160	315 M/1													
	200	315 M/2												1220	
	250	355 S													1280
315	355 M														

¹⁾ Other flange designs on request

²⁾ Max. motor dimensions see table "Technical Data"

Main Dimensions – Below Floor

Pump Size	Pump Part			Ground Level Distance
	H _p	D _p	D _e	a
300/11/448	600	650	510	250

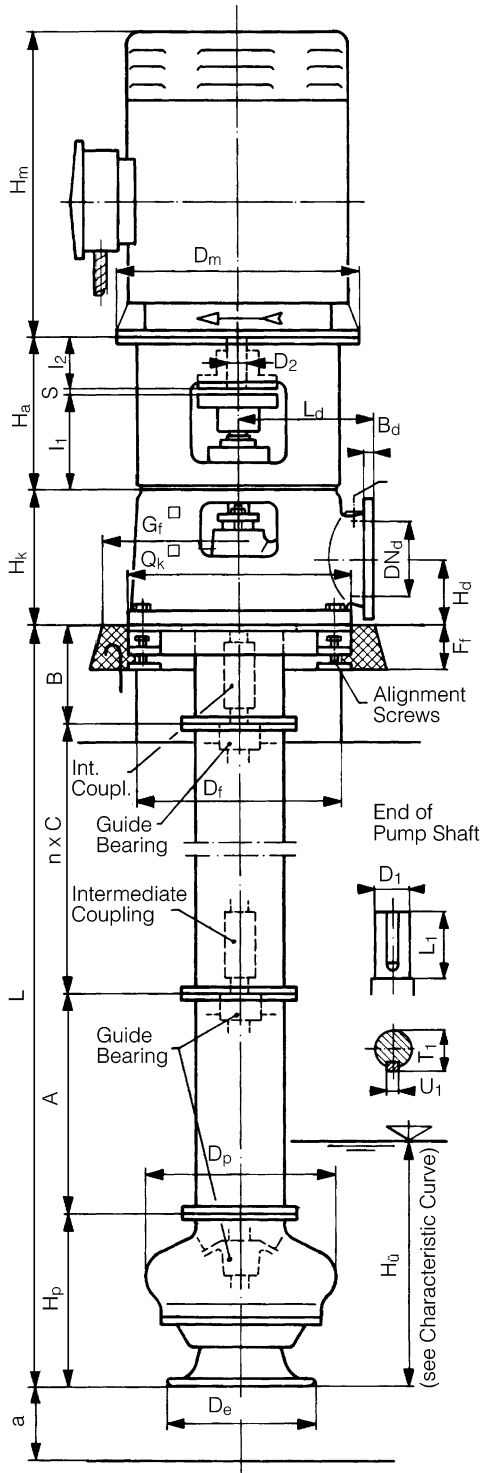
Susp. Length	Column Pipe Length ³⁾				Guide Bearings	Intern. Couplings	Susp. Length	Column Pipe Length ³⁾				Guide Bearings	Intern. Couplings
	L	A	B	n x C				Piece	Piece	L	A		
2100 to 2300	1500 to 1700	-	-	-	2	0	5100 to 5600	1200 to 1700	1300	1x2000	3	2	
2400 to 3000	1100 to 1700	700	-	-	2	1	5700 to 6300	1100 to 1700	-	2x2000	4	2	
3100 to 3600	1200 to 1700	1300	-	-	2	1	6400 to 7000	1100 to 1700	700	2x2000	4	3	
3700 to 4300	1100 to 1700	-	1x2000	-	3	1	7100 to 7600	1200 to 1700	1300	2x2000	4	3	
4400 to 5000	1100 to 1700	700	1x2000	-	3	2	7700 to 8300	1100 to 1700	-	3x2000	5	3	

³⁾ Increment = 100

Design subject to alteration

Unit Dimensions

(Dimensions in mm)



Shaft end acc. to DIN 748

Fitting key and key way

acc. to DIN 6885

 Foundation opening grouted
after alignment

Main Dimensions – Above Floor

Pump Size	Flange ¹⁾ DIN 2501/ISO 7005			Discharge Casing						
	DN _d	PN	B _d	H _d	L _d	H _k	Q _k [□]	D _f	G _f [□]	F _f
350/5/300	300	10	28	250	500	550	860	750	1100	140

Motor ²⁾							Motor Stool						
Prot. Class	Power (kW)	Size	D _m	I ₂	D ₂	H _m	I ₁	S	H _a	D ₁	L ₁	T ₁	U ₁
IP 23	55	225 M	550	140	65	730	288	5	433	50	110	53.5	14
	75	250 S			75	800							
	90	250 M	660	170	80	900							
	110	280 S											
IP 54	55	250 M	550	140	65	830	288	5	433	50	110	53.5	14
	75	280 S			75	900							
	90	280 M	660	170	80	1050							
	110	315 S											

¹⁾ Other flange designs on request

²⁾ Max. motor dimensions see table "Technical Data"

Main Dimensions – Below Floor

Pump Size	Pump Part			Ground Level Distance
	H _p	D _p	D _e	a
350/5/300	810	596	455	250

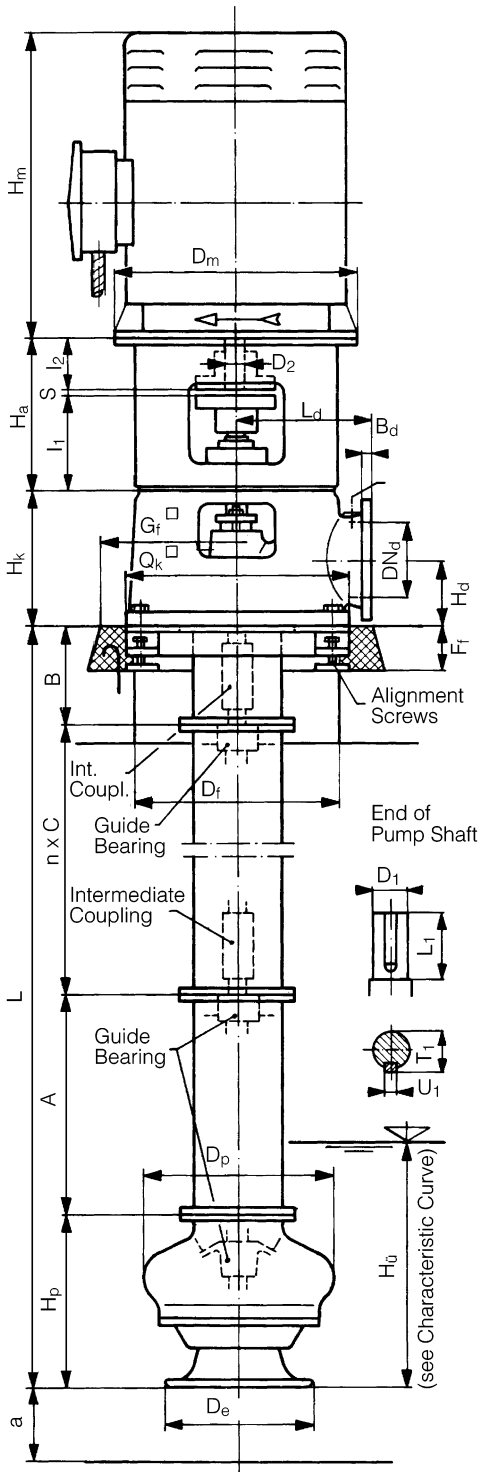
Susp. Length	Column Pipe Length ³⁾				Guide Bearings	Intern. Couplings	Susp. Length	Column Pipe Length ³⁾				Guide Bearings	Intern. Couplings	
	L	A	B	n x C				Piece	Piece	L	A			B
2000 to 2500	600	600 to 1000	–	–	2	1	7000 to 8700	800 to 1400	500 to 1100	3x1400 to 3x1800	–	–	5	4
2600 to 3300	1200 to 1400	500 to 1000	–	–	2	1								
3400 to 3800	900	700 to 1100	1x900	–	3	2								
3900 to 5100	1100 to 1400	500 to 1000	1x1100 to 1x1400	–	3	2								
5200 to 6900	1200 to 1400	700 to 1000	2x1200 to 1800	–	4	3								

³⁾ Increment = 100

Design subject to alteration

Unit Dimensions

(Dimensions in mm)



Shaft end acc. to DIN 748
 Fitting key and key way
 acc. to DIN 6885
 Foundation opening grouted
 after alignment

Main Dimensions – Above Floor

Pump Size	Flange ¹⁾ DIN 2501/ISO 7005			Discharge Casing							
	DN _d	PN	B _d	H _d	L _d	H _k	Q _k [□]	D _f	G _f [□]	F _f	
	350/9/400	350	10	30	300	550	600	860	750	1100	140

Motor ²⁾							Motor Stool						
Prot. Class	Power (kW)	Size	D _m	l ₂	D ₂	H _m	I ₁	S	H _a	D ₁	L ₁	T ₁	U ₁
IP 23	132	280 M	660	170	80	880	315	5	490	70	140	74.5	20
	160	315 S			90	1000							
	200	315 M											
	250	315 M/1											
IP 54	132	315 M	660	170	80	1050	315	5	490	70	140	74.5	20
	160	315 M/1			100	1220							
	200	315 L											
	250	355 S											

¹⁾ Other flange designs on request

²⁾ Max. motor dimensions see table "Technical Data"

Main Dimensions – Below Floor

Pump Size	Pump Part			Ground Level Distance
	H _p	D _p	D _e	a
350/9/400	760	690	580	300

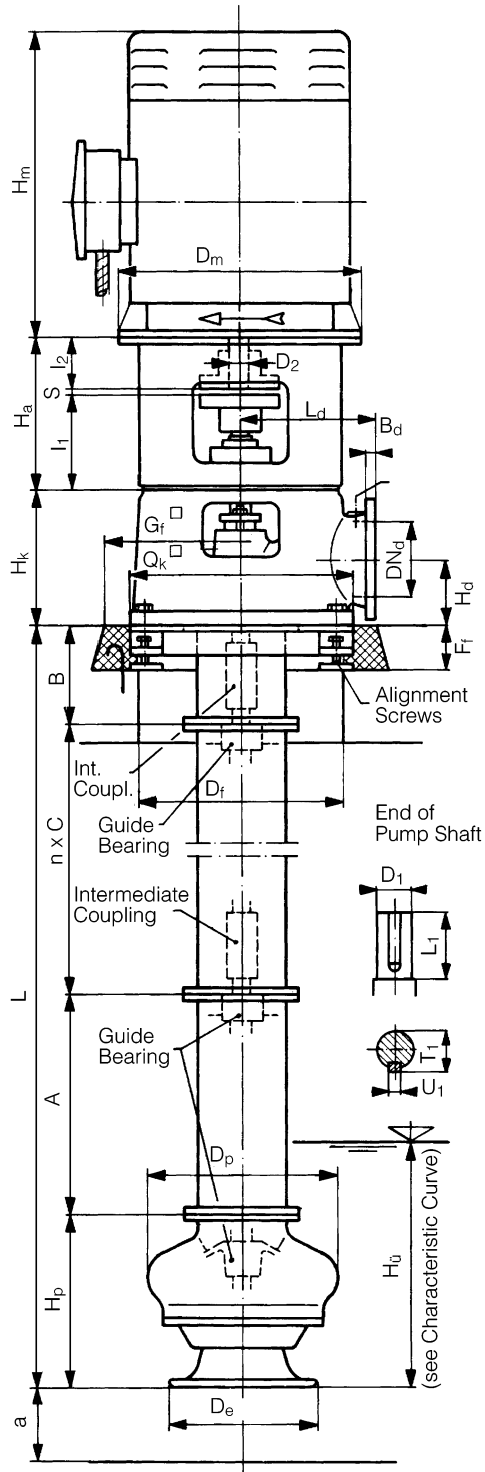
Susp. Length	Column Pipe Length ³⁾			Guide Bearings	Intern. Couplings	Susp. Length	Column Pipe Length ³⁾			Guide Bearings	Intern. Couplings		
	L	A	B				n x C	Piece	Piece			L	A
1800 to 1900	-	1000 to 1100	-	-	-								
2000 to 4000	600 to 1800	600 to 1400	-	2	1								
4100 to 6100	1300 to 1800	700 to 1400	1x1300 to 1x2100	3	2								
6200 to 8200	1500 to 1800	900 to 1400	2x1500 to 2x2100	4	3								
8300 to 9900	1700 to 1800	700 to 1400	3x1700 to 3x2100	5	4								

³⁾ Increment = 100

Design subject to alteration

Unit Dimensions

(Dimensions in mm)



Shaft end acc. to DIN 748
 Fitting key and key way
 acc. to DIN 6885
 Foundation opening grouted
 after alignment

Main Dimensions – Above Floor

Pump Size	Flange ¹⁾ DIN 2501/ISO 7005			Discharge Casing						
	DN _d	PN	B _d	H _d	L _d	H _k	Q _k [□]	D _f	G _f [□]	F _f
350/11/488	300	10	28	275	600	570	1000	900	1250	140

Prot. Class	Power (kW)	Size	Motor ²⁾				Motor Stool						
			D _m	l ₂	D ₂	H _m	l ₁	S	H _a	D ₁	L ₁	T ₁	U ₁
IP 23	200	315 M	800	170	90	1000	405	5	580	80	170	85	22
	250	315 M/1				1080							
	315	315 M/1											
	355	315 M/2											
IP 54	400	315 L/2	660	170	80	1050	405	5	580	80	170	85	22
	200	315 M/2				1220							
	250	355 S				1280							
	315	355 M				1350							
	355	355 L/2	800	210	100	1430	405	5	620	80	170	85	22
	400	355 X/2											

1) Other flange designs on request

2) Max. motor dimensions see table "Technical Data"

Main Dimensions – Below Floor

Pump Size	Pump Part			Ground Level Distance
	H _p	D _p	D _e	a
350/11/488	700	730	560	300

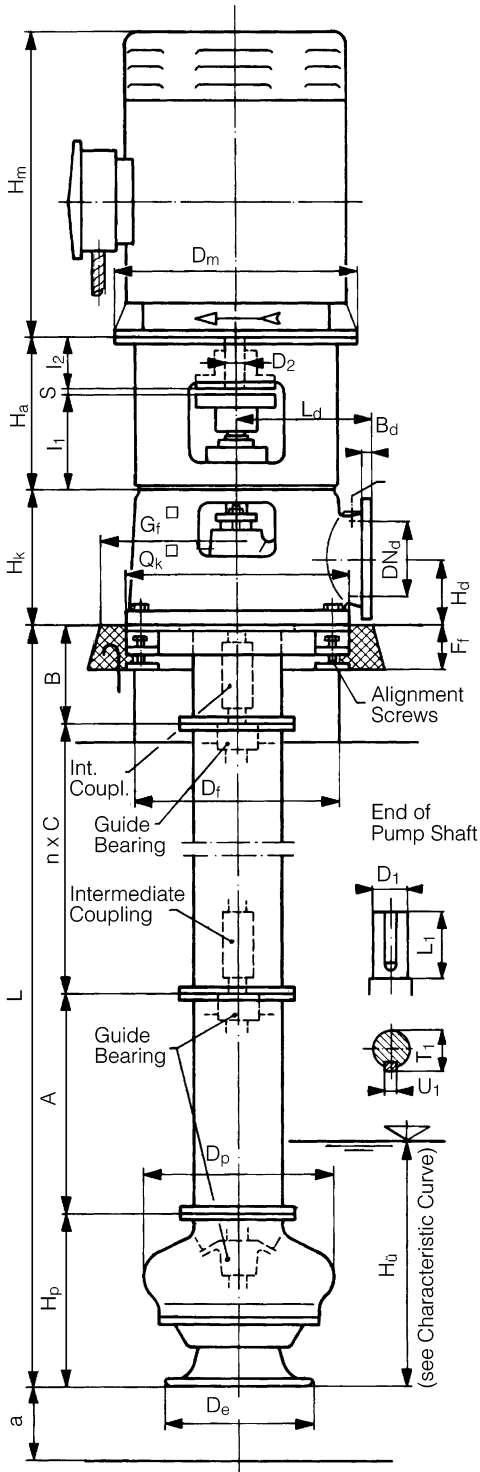
Susp. Length	Column Pipe Length ³⁾				Guide Bearings	Intern. Couplings	Susp. Length	Column Pipe Length ³⁾				Guide Bearings	Intern. Couplings
	L	A	B	n x C				Piece	Piece	L	A		
2100 to 2400	-	1400 to 1700	-	-	1	0	5100 to 5800	1300 to 2000	800	1x2300	3	2	
2500 to 2700	1800 to 2000	-	-	-	2	0	5900 to 6600	1300 to 2000	1600	1x2300	3	2	
2800 to 3500	1300 to 2000	800	-	-	2	1	6700 to 7300	1400 to 2000	-	2x2300	4	2	
3600 to 4300	1300 to 2000	1600	-	-	2	1	7400 to 8100	1300 to 2000	800	2x2300	4	3	
4400 to 5000	1400 to 2000	-	1x2000	-	3	1	8200 to 8900	1300 to 2000	1600	2x2300	4	3	

3) Increment = 100

Design subject to alteration

Unit Dimensions

(Dimensions in mm)



Shaft end acc. to DIN 748
 Fitting key and key way
 acc. to DIN 6885
 Foundation opening grouted
 after alignment

Main Dimensions – Above Floor

Pump Size		Flange ¹⁾ DIN 2501/ISO 7005			Discharge Casing						
		DN _d	PN	B _d	H _d	L _d	H _k	Q _k [□]	D _f	G _f [□]	F _f
400/4/325		400	10	32	330	600	675	1000	900	1250	140

Motor ²⁾							Motor Stool						
Prot. Class	Power (kW)	Size	D _m	l ₂	D ₂	H _m	I ₁	S	H _a	D ₁	L ₁	T ₁	U ₁
IP 23	110	280 S	660	170	80	910	336	5	511	60	140	64	18
	132	280 M			90	990							
	160	315 S			800	90							
IP 54	110	315 S	660	170	80	1050	336	5	511	60	140	64	18
	132	315 M			80	1050							
	160	315 M			80	1050							

¹⁾ Other flange designs on request

²⁾ Max. motor dimensions see table "Technical Data"

Main Dimensions – Below Floor

Pump Size		Pump Part			Ground Level Distance	
		H _p	D _p	D _e		
400/4/325		890	670	510	250	

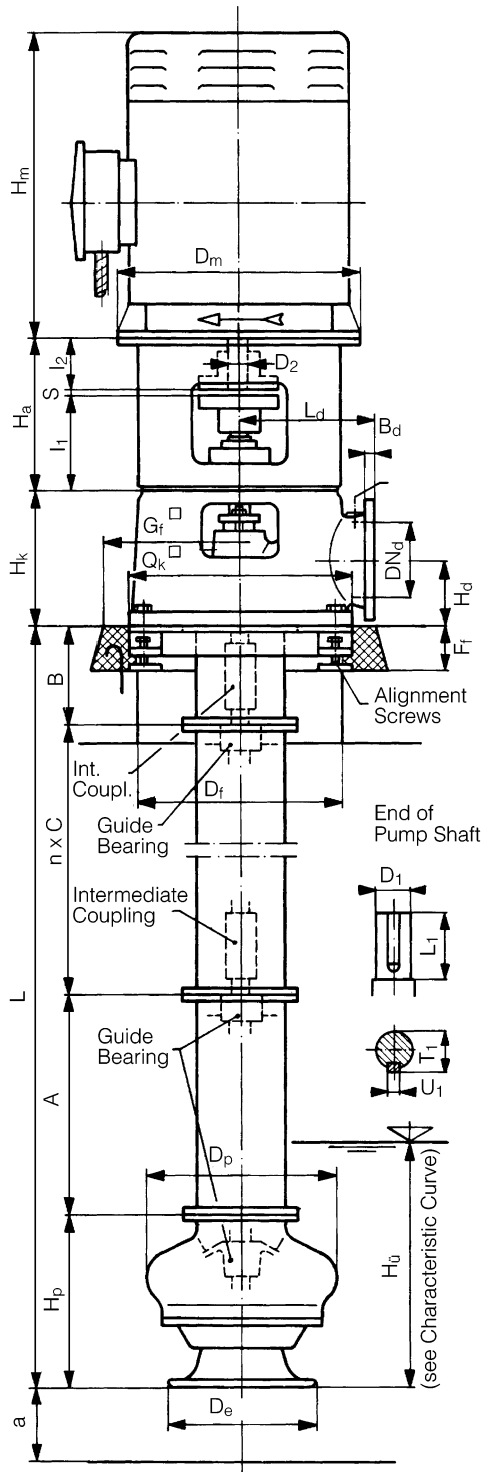
Susp. Length	Column Pipe Length ³⁾			Guide Bearings	Intern. Couplings	Susp. Length	Column Pipe Length ³⁾			Guide Bearings	Intern. Couplings
	L	A	B				n x C	Piece	Piece		
1700	-	700	-	-	-	9000 to 10000	700	700	4x1700 to 4x1900	6	5
1800 to 2900	700 to 1200	700	-	2	1						
3000 to 4900	200 to 700	700 to 1200	1x700 to 1x2000	3	2						
5000 to 6900	700	700 to 1200	2x1300 to 2000	4	3						
7000 to 8900	700	700 to 1200	1600 to 2000	5	4						

³⁾ Increment = 100

Design subject to alteration

Unit Dimensions

(Dimensions in mm)



Shaft end acc. to DIN 748
 Fitting key and key way
 acc. to DIN 6885
 Foundation opening grouted
 after alignment

Main Dimensions – Above Floor

Pump Size	Flange ¹⁾ DIN 2501/ISO 7005			Discharge Casing						
	DN _d	PN	B _d	H _d	L _d	H _k	Q _k [□]	D _f	G _f [□]	F _f
400/6/350	400	10	32	330	600	675	1000	900	1250	140

Motor ²⁾							Motor Stool						
Prot. Class	Power (kW)	Size	D _m	l ₂	D ₂	H _m	l ₁	S	H _a	D ₁	L ₁	T ₁	U ₁
IP 23	132	280 M	660	170	80	880	336	5	511	60	140	64	18
	160	315 S			950								
	200	315 M	90		1000								
	250	315 M/1											
IP 54	132	315 M	660	170	80	1050	336	5	511	60	140	64	18
	160	315 M/1											
	200	315 M/2											
	250	355 S	800		210	100							

¹⁾ Other flange designs on request

²⁾ Max. motor dimensions see table "Technical Data"

Main Dimensions – Below Floor

Pump Size	Pump Part			Ground Level Distance
	H _p	D _p	D _e	a
400/6/350	900	610	580	300

Susp. Length	Column Pipe Length ³⁾				Guide Bearings	Intern. Couplings	Susp. Length	Column Pipe Length ³⁾				Guide Bearings	Intern. Couplings
	L	A	B	n x C				Piece	Piece	L	A		
2200 to 2500	1300 to 1600	-	-	-	2	0	5200 to 5700	1100 to 1600	1200	1x2000	3	2	
2600 to 3100	1100 to 1600	600	-	-	2	1	5800 to 6500	900 to 1600	-	2x2000	4	2	
3200 to 3700	1100 to 1600	1200	-	-	2	1	6600 to 7100	1100 to 1600	600	2x2000	4	3	
3800 to 4500	900 to 1600	-	1x2000	-	3	1	7200 to 7700	1100 to 1600	1200	2x2000	4	3	
4600 to 5100	1100 to 1600	600	1x2000	-	3	2	7800 to 8500	900 to 1600	-	3x2000	5	3	

³⁾ Increment = 100

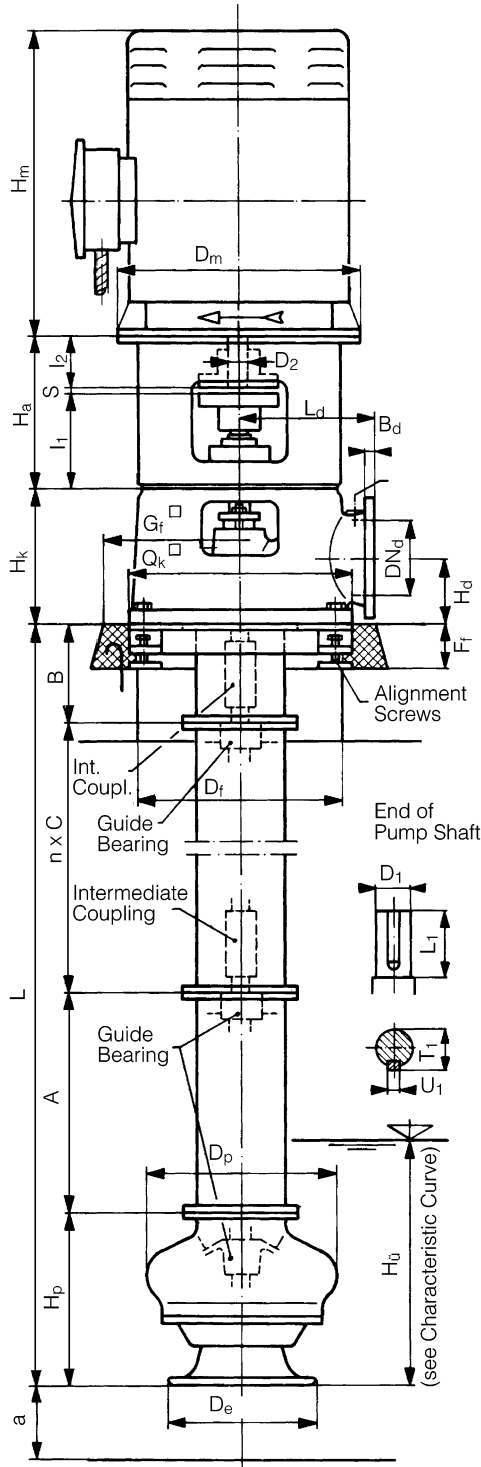
Design subject to alteration

TR 400/7/440

 n = 1480 min⁻¹

Unit Dimensions

(Dimensions in mm)



Shaft end acc. to DIN 748
 Fitting key and key way
 acc. to DIN 6885
 Foundation opening grouted
 after alignment

Main Dimensions – Above Floor													
Pump Size	Flange ¹⁾ DIN 2501/ISO 7005			Discharge Casing									
	DN _d	PN	B _d	H _d	L _d	H _k	Q _k [□]	D _f	G _f [□]	F _f			
400/7/440	400	10	32	330	600	675	1000	900	1250	140			
Motor ²⁾						Motor Stool							
Prot. Class	Power (kW)	Size	D _m	l ₂	D ₂	H _m	I ₁	S	H _a	D ₁	L ₁	T ₁	U ₁
IP 23	132	315 M	800	170	90	1000	345	5	520	70	140	74.5	20
	160	315 M/1											
	200	315 M/1											
IP 54	132	315 M/2	660	170	80	1050	345	5	520	70	140	74.5	20
	160	355 S	800	210	100	1220			560				
	200	355 S											

¹⁾ Other flange designs on request

²⁾ Max. motor dimensions see table "Technical Data"

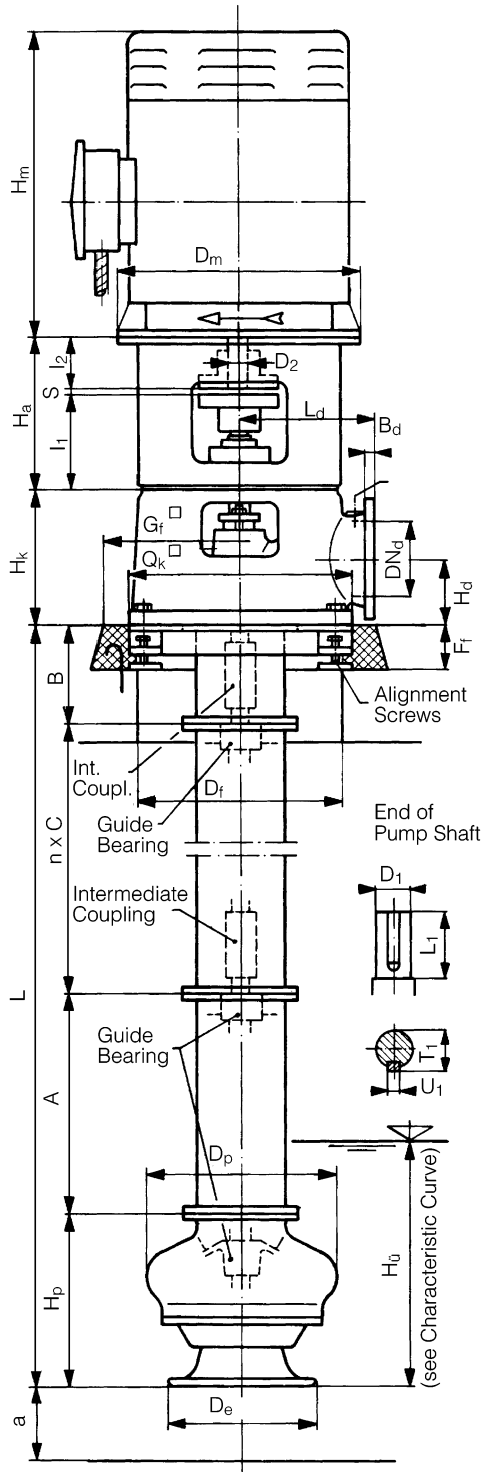
Main Dimensions – Below Floor											
Pump Size	Pump Part			Ground Level Distance							
	H _p	D _p	D _e	a							
400/7/440	1000	740	690	350							
Susp. Length	Column Pipe Length ³⁾			Guide Bearings	Intern. Couplings	Susp. Length	Column Pipe Length ³⁾			Guide Bearings	Intern. Couplings
L	A	B	n x C	Piece	Piece	L	A	B	n x C	Piece	Piece
2000 to 2200	-	1000 to 1200	-	1	0	5600 to 5700	2000 to 2100	-	1x2600	3	1
2300 to 2600	-	1300 to 1600	-	1	0	5800 to 6300	1600 to 2100	800	1x2400	3	2
2700 to 3100	1700 to 2100	-	-	2	0	6400 to 7200	1300 to 2100	1700	1x2400	3	2
3200 to 3900	1400 to 2100	800	-	2	1	7300 to 7400	2000 to 2100	1700	1x2600	3	2
4000 to 4800	1300 to 2100	1700	-	2	1	7500 to 7900	1700 to 2100	-	2x2400	4	2
4900 to 5500	1500 to 2100	-	1x2400	3	1	8000 to 8700	1400 to 2100	800	2x2400	4	3

³⁾ Increment = 100

Design subject to alteration

Unit Dimensions

(Dimensions in mm)



Shaft end acc. to DIN 748

Fitting key and key way

acc. to DIN 6885

 Foundation opening grouted
after alignment

Main Dimensions – Above Floor

Pump Size		Flange ¹⁾ DIN 2501/ISO 7005			Discharge Casing										
		DN _d	PN	B _d	H _d	L _d	H _k	Q _k [□]	D _f	G _f [□]	F _f				
400/8/400		400	10	32	330	600	675	1000	900	1250	140				
		Motor ²⁾					Motor Stool								
Prot. Class	Power (kW)	Size	D _m	l ₂	D ₂	H _m	l ₁	S	H _a	D ₁	L ₁	T ₁	U ₁		
IP 23	160	315 S	800	170	90	990	315	5	490	70	140	745	20		
	250	315 L				1110									
	315	315 L				1080									
IP 54	160	315 M	660	170	80	1050	315	5	490	70	140	745	20		
	250	355 S	800	210	100	1220									
	315	355 M				1280									530

¹⁾ Other flange designs on request

²⁾ Max. motor dimensions see table "Technical Data"

Main Dimensions – Below Floor

Pump Size		Pump Part			Ground Level Distance				
		H _p	D _p	D _e	a				
400/8/400		790	685	510	250				
Susp. Length	Column Pipe Length ³⁾			Guide Bearings	Intern. Couplings				
L	A	B	n x C	Piece	Piece				
1700	-	900	-	-	-	9000 to 10000	700 700 4x1900 to 2000	6	5
1900 to 3000	700 to 1000	700 to 1200	-	2	1				
3100 to 5100	600 to 1000	600 to 1200	1x800 to 1x2100	3	2				
5200 to 7300	500 to 1000	700 to 1200	3x1600 to 3x2100	4	3				
7400 to 9400	700 to 1000	700 to 1200	3x1800 to 3x2100	5	4				

³⁾ Increment = 100

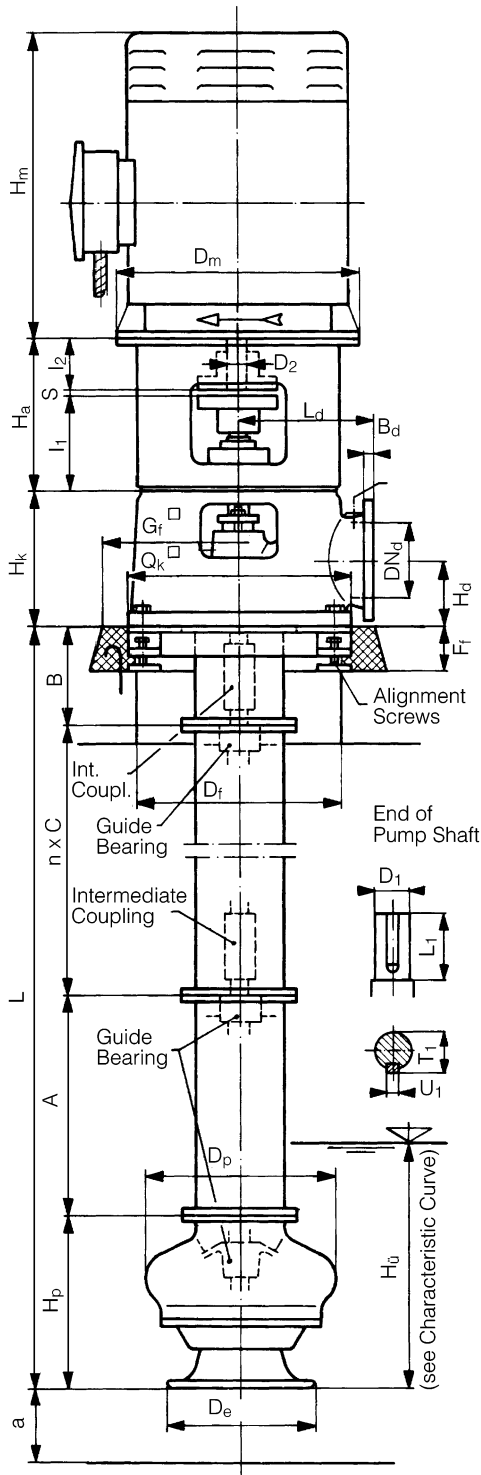
Design subject to alteration

TR 400/10/480

 $n = 1480 \text{ min}^{-1}$

Unit Dimensions

(Dimensions in mm)



Shaft end acc. to DIN 748
 Fitting key and key way
 acc. to DIN 6885
 Foundation opening grouted
 after alignment

Main Dimensions – Above Floor

Pump Size	Flange ¹⁾ DIN 2501/ISO 7005			Discharge Casing							
	DN _d	PN	B _d	H _d	L _d	H _k	Q _k ²⁾	D _f	G _f ²⁾	F _f	
400/10/480	400	10	32	330	600	675	1000	900	1250	140	

Motor ²⁾							Motor Stool						
Prot. Class	Power (kW)	Size	D _m	I ₂	D ₂	H _m	I ₁	S	H _a	D ₁	L ₁	T ₁	U ₁
IP 23	315	315 M/1	800	170	90	1000	405	5	580	80	170	85	22
	355	315 M/2				1080							
	400	315 L/2				1080							
	255 - 495	³⁾	1000	210	100	1560			620				
IP 54	315	355 M	800	210	100	1280	405	5	620	80	170	85	22
	355	355 L/2				1350							
	400	355 X/2				1430							
	450	355 Y/2				1520							

¹⁾ Other flange designs on request

²⁾ Max. motor dimensions see table "Technical Data"

³⁾ Main dimensions are approximate values for high voltage motors up to 6 kV

Main Dimensions – Below Floor

Pump Size	Pump Part			Ground Level Distance
	H _p	D _p	D _e	a
400/10/480	900	750	560	300

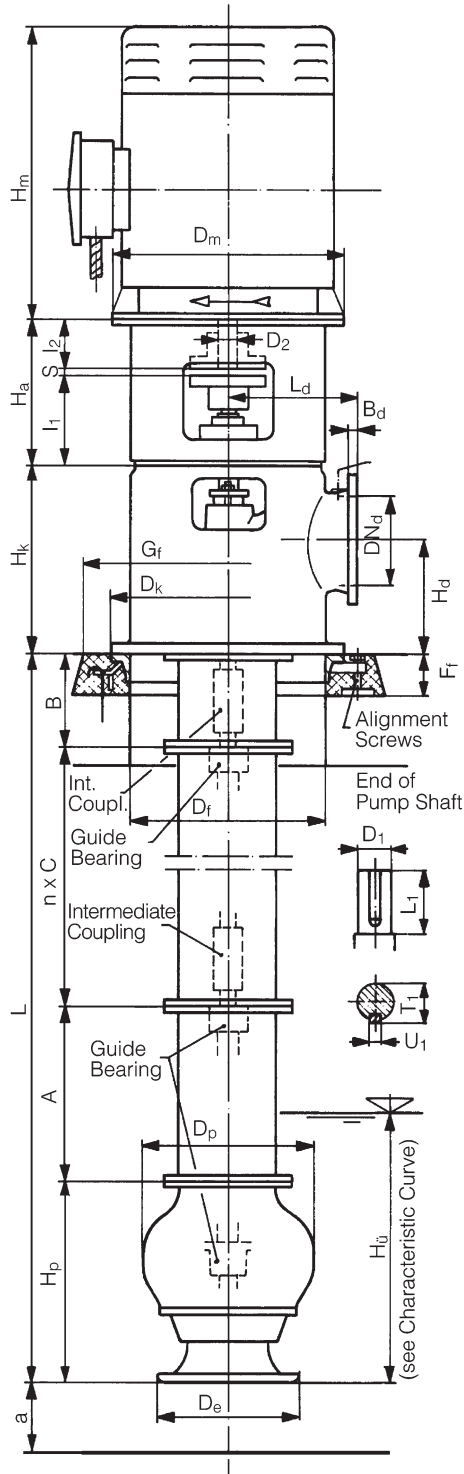
Susp. Length	Column Pipe Length ⁴⁾			Guide Bearings	Intern. Couplings	Susp. Length	Column Pipe Length ⁴⁾			Guide Bearings	Intern. Couplings
	L	A	B				n x C	Piece	Piece		
2100 to 2400	-	1200 to 1500	-	1	0	5200 to 5900	1200 to 1900	800	1x2300	3	2
2500 to 2800	1600 to 1900	-	-	2	0	6000 to 6600	1300 to 1900	1500	1x2300	3	2
2900 to 3600	1200 to 1900	800	-	2	1	6700 to 7400	1200 to 1900	-	2x2300	4	2
3700 to 4300	1300 to 1900	1500	-	2	1	7500 to 8200	1200 to 1900	800	2x2300	4	3
4400 to 5100	1200 to 1900	-	1x2300	3	1	8300 to 8900	1300 to 1900	1500	2x2300	4	3

⁴⁾ Increment = 100

Design subject to alteration

Unit Dimensions

(Dimensions in mm)



Shaft end acc. to DIN 748
 Fitting key and key way
 acc. to DIN 6885
 Foundation opening grouted
 after alignment

Main Dimensions – Above Floor

Pump Size	Flange ¹⁾ DIN 2501/ISO 7005			Discharge Bend						
	DN _d	PN	B _d	H _d	L _d	H _k	D _k	D _f	G _f	F _f
500/6/440	500	10	38	600	650	1000	1230	1000	1500	170

Motor ²⁾							Motor Stool						
Prot. Class	Power (kW)	Size	D _m	l ₂	D ₂	H _m	I ₁	S	H _a	D ₁	L ₁	T ₁	U ₁
IP 23	200	315 M/1	800	170	90	1080	405	5	580	80	170	85	22
	270	315 L/2											
	165 - 270 ³⁾		1000	210	100	1560							
	320 - 465 ³⁾		1150			1850							
IP 54	200	355 S	800	210	100	1220	405	5	620	80	170	85	22
	250	355 M				1280							
	280	355 L/2				1350							
	315	355 X/2				1430							

¹⁾ Other flange designs on request

²⁾ Max. motor dimensions see table "Technical Data"

³⁾ Main dimensions are approximate values for high voltage motors up to 6 kV

Main Dimensions – Below Floor

Pump Size	Pump Part			Ground Level Distance
	H _p	D _p	D _e	a
500/6/440	1200	830	690	350

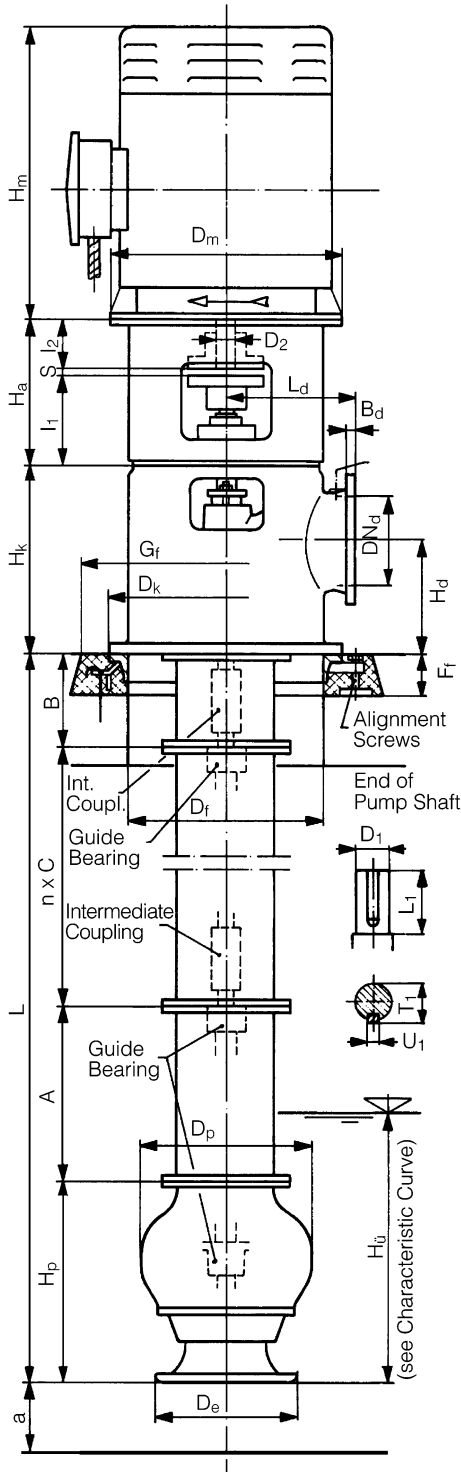
Susp. Length	Column Pipe Length ⁴⁾				Guide Bearings	Intern. Couplings	Susp. Length	Column Pipe Length ⁴⁾				Guide Bearings	Intern. Couplings
L	A	B	n x C	Piece	Piece		L	A	B	n x C	Piece	Piece	
2400 to 2700	-	1200 to 1500	-	1	0		6000 to 6300	2000 to 2300	-	1x2800	3	2	
2800 to 3500	1600 to 2300	-	-	2	1		6400 to 6700	2000 to 2300	800	1x2400	3	2	
3600 to 4300	1600 to 2300	800	-	2	1		6800 to 7500	1600 to 2300	1600	1x2400	3	2	
4400 to 5100	1600 to 2300	1600	-	2	1		7600 to 7900	2000 to 2300	1600	1x2800	3	2	
5200 to 5900	1600 to 2300	-	1x2400	3	2		8000 to 8300	2000 to 2300	-	2x2400	4	3	

⁴⁾ Increment = 100

Design subject to alteration

Unit Dimensions

(Dimensions in mm)



Shaft end acc. to DIN 748
 Fitting key and key way
 acc. to DIN 6885
 Foundation opening grouted
 after alignment

Main Dimensions – Above Floor

Pump Size	Flange ¹⁾ DIN 2501/ISO 7005			Discharge Bend						
	DN _d	PN	B _d	H _d	L _d	H _k	D _k	D _f	G _f	F _f
500/8/530	500	10	38	600	650	1000	1230	1000	1500	170

Motor ²⁾							Motor Stool						
Prot. Class	Power (kW)	Size	D _m	l ₂	D ₂	H _m	l ₁	S	H _a	D ₁	L ₁	T ₁	U ₁
IP 23	270	315 L/2	800	170	90	1080	405	5	580	90	170	95	25
	165 - 270	³⁾	1000	210	100	1560							
	320 - 465	³⁾	1150			1850							
IP 54	250	355 M	800	210	100	1280	405	5	620	90	170	95	25
	280	355 L/2				1350							
	315	355 X/2				1430							
	355	355 Y/2				1520							
	275 - 385	³⁾				1150							
420 - 545	³⁾	1360	210	100	2090								

¹⁾ Other flange designs on request

²⁾ Max. motor dimensions see table "Technical Data"

³⁾ Main dimensions are approximate values for high voltage motors up to 6 kV

Main Dimensions – Below Floor

Pump Size	Pump Part			Ground Level Distance	
	H _p	D _p	D _e	a	
500/8/530	1100	920	690	350	

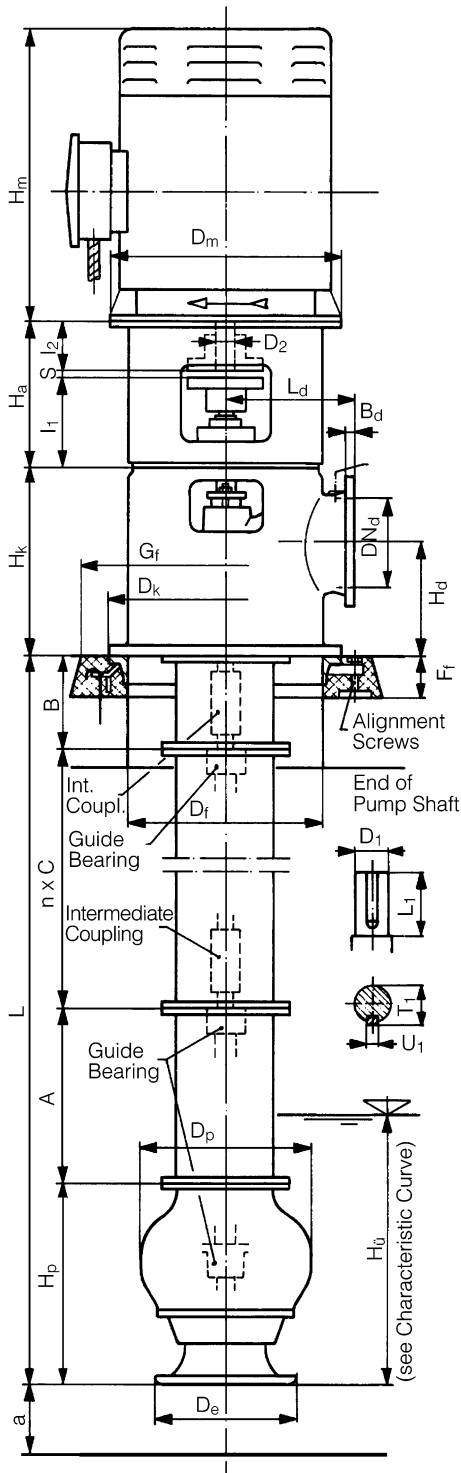
Susp. Length	Column Pipe Length ⁴⁾			Guide Bearings	Intern. Couplings	Susp. Length	Column Pipe Length ⁴⁾			Guide Bearings	Intern. Couplings
	L	A	B				n x C	Piece	Piece		
2000 to 2400	-	900 to 1300	-	1	0	5500 to 6200	1800 to 2500	-	1x2600	3	2
2500 to 2800	-	1400 to 1700	-	1	0	6300 to 6600	2200 to 2500	-	1x3000	3	2
2900 to 3600	1800 to 2500	-	-	2	1	6700 to 7100	2100 to 2500	900	1x2600	3	2
3700 to 4500	1700 to 2500	900	-	2	1	7200 to 8000	1700 to 2500	1800	1x2600	3	2
4600 to 5400	1700 to 2500	1800	-	2	1	8100 to 8400	2200 to 2500	1800	1x3000	3	2

⁴⁾ Increment = 100

Design subject to alteration

Unit Dimensions

(Dimensions in mm)



Shaft end acc. to DIN 748
 Fitting key and key way
 acc. to DIN 6885
 Foundation opening grouted
 after alignment

Main Dimensions – Above Floor

Pump Size	Flange ¹⁾ DIN 2501/ISO 7005			Discharge Bend						
	DN _d	PN	B _d	H _d	L _d	H _k	D _k	D _f	G _f	F _f
500/10/630	500	10	38	600	800	1050	1400	1200	1700	170

Motor ²⁾							Motor Stool						
Prot. Class	Power (kW)	Size	D _m	l ₂	D ₂	H _m	I ₁	S	H _a	D ₁	L ₁	T ₁	U ₁
IP 23	320 - 465 ³⁾		1150	210	100	1850	475	5	690	100	210	106	28
	520 - 950 ³⁾		1360		120	2130							
IP 54	275 - 385 ³⁾		1150	210	100	2050	475	5	690	100	210	106	28
	420 - 545 ³⁾		1360		110	2090							
	630 - 800 ³⁾		1360		110	2100							

¹⁾ Other flange designs on request

²⁾ Max. motor dimensions see table "Technical Data"

³⁾ Main dimensions are approximate values for high voltage motors up to 6 kV

Main Dimensions – Below Floor

Pump Size	Pump Part			Ground Level Distance
	H _p	D _p	D _e	a
500/10/630	1200	1040	780	400

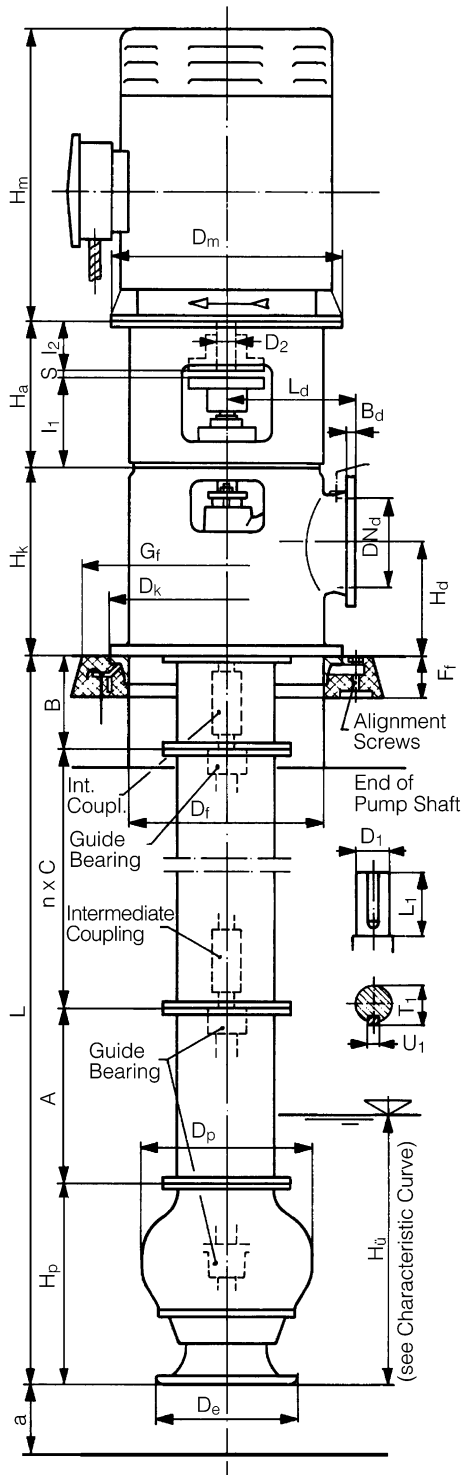
Susp. Length	Column Pipe Length ⁴⁾			Guide Bearings	Intern. Couplings	Susp. Length	Column Pipe Length ⁴⁾			Guide Bearings	Intern. Couplings
L	A	B	n x C	Piece	Piece	L	A	B	n x C	Piece	Piece
2100 to 2700	-	900 to 1500	-	1	0	6000 to 6700	2000 to 2700	-	1x2800	3	2
2800 to 3100	-	1600 to 1900	-	1	0	6800 to 7100	2400 to 2700	-	1x3200	3	2
3200 to 3900	2000 to 2700	-	-	2	1	7200 to 7700	2200 to 2700	1000	1x2800	3	2
4000 to 4900	1800 to 2700	1000	-	2	1	7800 to 8700	1800 to 2700	2000	1x2800	3	2
5000 to 5900	1800 to 2700	2000	-	2	1						

⁴⁾ Increment = 100

Design subject to alteration

Unit Dimensions

(Dimensions in mm)



Shaft end acc. to DIN 748
 Fitting key and key way
 acc. to DIN 6885
 Foundation opening grouted
 after alignment

Main Dimensions – Above Floor

Pump Size	Flange ¹⁾ DIN 2501/ISO 7005			Discharge Bend						
	DN _d	PN	B _d	H _d	L _d	H _k	D _k	D _f	G _f	F _f
500/11/638	500	10	38	600	650	1000	1400	1190	1500	170

Prot. Class	Power (kW)	Size	Motor ²⁾				Motor Stool						
			D _m	l ₂	D ₂	H _m	l ₁	S	H _a	D ₁	L ₁	T ₁	U ₁
IP 23	315 - 500	³⁾	900	170	95	1900	401	5	476	90	170	95	25
	315	355 X	800	170	85	1610	401	5	476	80	170	85	22
355	355 X	95								25			
IP 54	400	400 X	900	170	95	1700	401	5	476	90	170	95	25
	450	400 X								95		25	
	500	400 X								95		25	

¹⁾ Other flange designs on request

²⁾ Max. motor dimensions see table "Technical Data"

³⁾ Main dimensions are approximate values for high voltage motors up to 6 kV

Main Dimensions – Below Floor

Pump Size	Pump Part			Ground Level Distance
	H _p	D _p	D _e	a
500/11/638	970	980	775	400

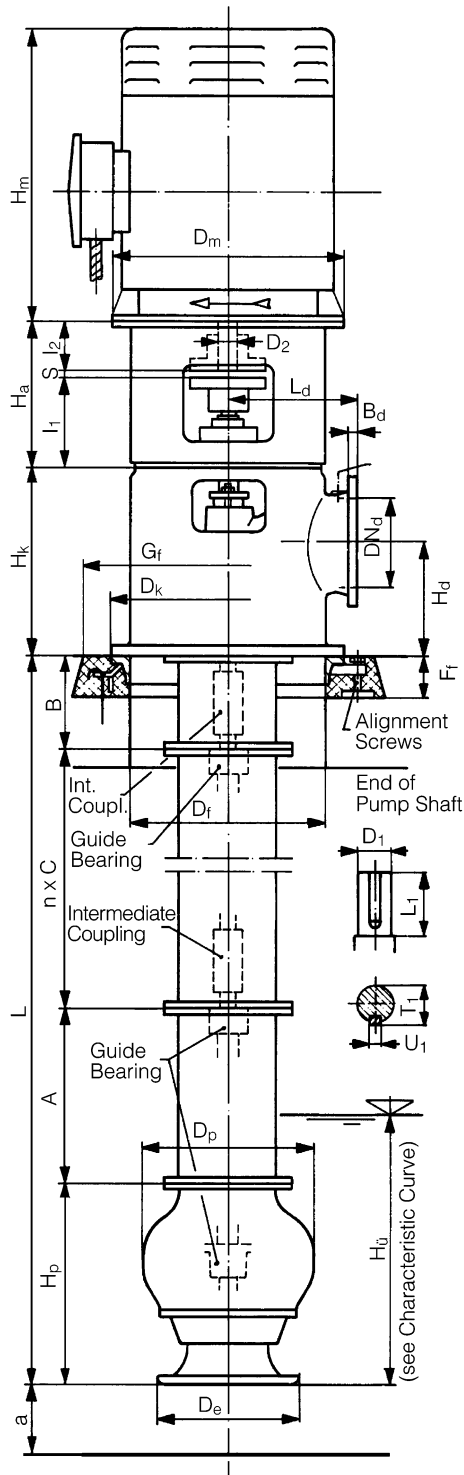
Susp. Length	Column Pipe Length ⁴⁾			Guide Bearings	Intern. Couplings	Susp. Length	Column Pipe Length ⁴⁾			Guide Bearings	Intern. Couplings	
	L	A	B				n x C	Piece	Piece			L
2100 to 2400	-	1100 to 1400	-	-	-							
2500 to 4100	600 to 1400	900 to 1700	-	2	1							
4200 to 7000	800 to 1400	900 to 1700	1x1400 to 1x2900	3	2							
7100 to 9900	700 to 1400	900 to 1700	2x2700 to 2x2900	4	3							

⁴⁾ Increment = 100

Design subject to alteration

Unit Dimensions

(Dimensions in mm)



Shaft end acc. to DIN 748
 Fitting key and key way
 acc. to DIN 6885
 Foundation opening grouted
 after alignment

Main Dimensions – Above Floor

Pump Size		Flange ¹⁾ DIN 2501/ISO 7005			Discharge Bend									
		DN _d	PN	B _d	H _d	L _d	H _k	D _k	D _f	G _f	F _f			
500/11/685		500	10	38	600	650	1000	1400	1190	1500	170			
Prot. Class		Motor ²⁾						Motor Stool						
		Power (kW)	Size	D _m	l ₂	D ₂	H _m	l ₁	S	H _a	D ₁	L ₁	T ₁	U ₁
IP 23		500 - 800 ³⁾		1100	210	110	2000	474	5	689	100	210	106	28
IP 54		500	400 X	900	170	95	1700	474	5	689	100	210	106	28
		560	450 X	1000	210	110	1880			709				
		630	450 X											
		710	450 X											
800	450 X													

¹⁾ Other flange designs on request

²⁾ Max. motor dimensions see table "Technical Data"

³⁾ Main dimensions are approximate values for high voltage motors up to 6 kV

Main Dimensions – Below Floor

Pump Size		Pump Part			Ground Level Distance								
		H _p	D _p	D _e									
500/11/685		980	1062	830	450								
Susp. Length	Column Pipe Length ⁴⁾				Guide Bearings	Intern. Couplings	Susp. Length	Column Pipe Length ⁴⁾				Guide Bearings	Intern. Couplings
	L	A	B	n x C				Piece	Piece	L	A		
2600	-	1600	-	-	-	-							
2700 to 4600	900 to 1700	800 to 1900	-	2	1								
4700 to 7800	800 to 1700	800 to 1900	1x1700 to 1x3200	3	2								
7900 to 9900	700 to 1600	900 to 2000	2x3100 to 2x3200	4	3								

⁴⁾ Increment = 100

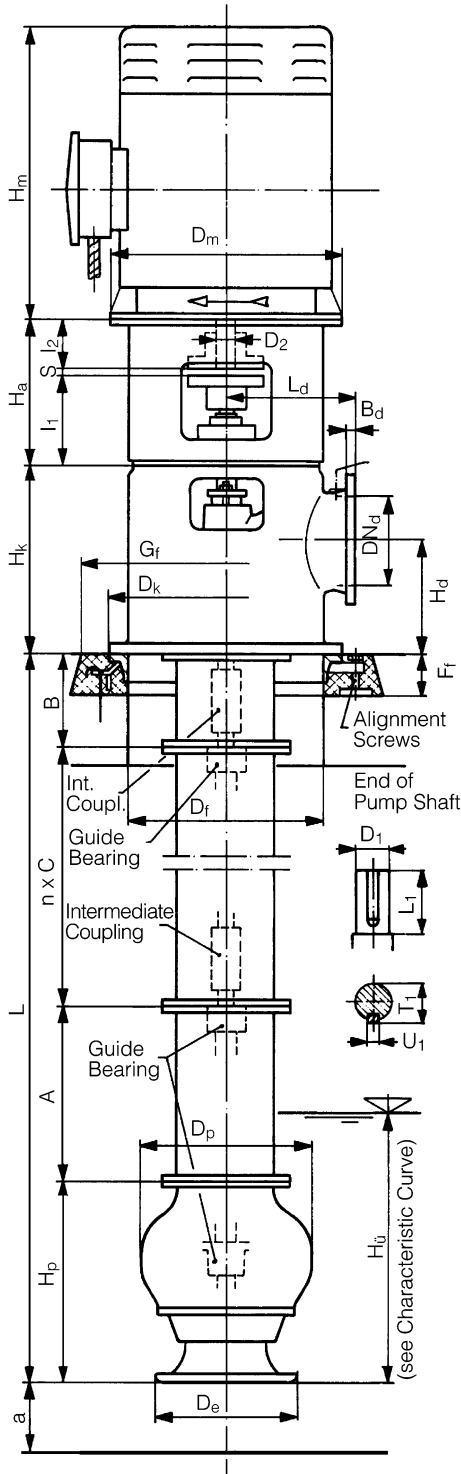
Design subject to alteration

TR 500/12/750

 n = 990 min⁻¹

Unit Dimensions

(Dimensions in mm)



Shaft end acc. to DIN 748
 Fitting key and key way
 acc. to DIN 6885
 Foundation opening grouted
 after alignment

Main Dimensions – Above Floor

Pump Size		Flange ¹⁾ DIN 2501/ISO 7005			Discharge Bend												
		DN _d	PN	B _d	H _d	L _d	H _k	D _k	D _f	G _f	F _f						
500/12/750		500	10	38	600	800	1050	1610	1360	1800	170						
Prot. Class		Power (kW)		Size		Motor ²⁾						Motor Stool					
						D _m	l ₂	D ₂	H _m	I ₁	S	H _a	D ₁	L ₁	T ₁	U ₁	
IP 23		560-1000 ³⁾		1200	210	110	2300	474	5	689	110	210	116	28			
IP 54		560	450 X	1000	210	110	1880	474	5	689	110	210	116	28			
		630	450 X														
		800	450 X														
		810	450 X														
		900	500 X	1150	120	2200											
1000	500 X																

¹⁾ Other flange designs on request

²⁾ Max. motor dimensions see table "Technical Data"

³⁾ Main dimensions are approximate values for high voltage motors up to 6 kV

Main Dimensions – Below Floor

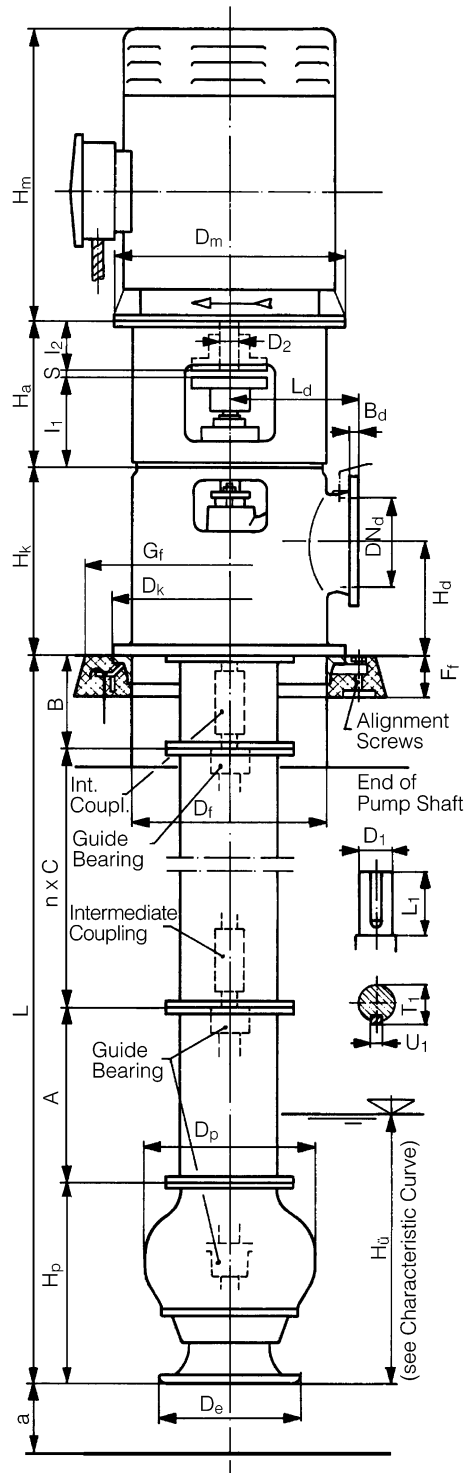
Pump Size		Pump Part			Ground Level Distance								
		H _p	D _p	D _e			a						
500/12/750		990	1100	830	450								
Susp. Length	Column Pipe Length ⁴⁾				Guide Bearings	Intern. Couplings	Susp. Length	Column Pipe Length ⁴⁾				Guide Bearings	Intern. Couplings
	L	A	B	n x C				Piece	Piece	L	A		
2700	-	1700	-	-	-	-							
2800 to 4800	800 to 2000	1000 to 1800	-	2	1								
4900 to 8100	800 to 1800	800 to 2000	1x3100 to 1x3300	3	2								
8200 to 9900	800 to 1700	900 to 2100	2x3300	4	3								

⁴⁾ Increment = 100

Design subject to alteration

Unit Dimensions

(Dimensions in mm)



Shaft end acc. to DIN 748
 Fitting key and key way
 acc. to DIN 6885
 Foundation opening grouted
 after alignment

Main Dimensions – Above Floor													
Pump Size		Flange ¹⁾ DIN 2501/ISO 7005			Discharge Bend								
		DN _d	PN	B _d	H _d	L _d	H _k	D _k	D _f	G _f	F _f		
600/4/580		600	10	42	700	700	1150	1400	1200	1700	170		
Motor ²⁾						Motor Stool							
Prot. Class	Power (kW)	Size	D _m	l ₂	D ₂	H _m	I ₁	S	H _a	D ₁	L ₁	T ₁	U ₁
IP 23	270	315 L/2	800	170	90	1080	405	5	580	80	170	85	22
	165 - 270	³⁾	1000	210	100	1560							
	320 - 465	³⁾	1150			1850							
IP 54	280	355 L/2	800	210	100	1350	405	5	620	80	170	85	22
	315	355 X/2				1430							

¹⁾ Other flange designs on request

²⁾ Max. motor dimensions see table "Technical Data"

³⁾ Main dimensions are approximate values for high voltage motors up to 6 kV

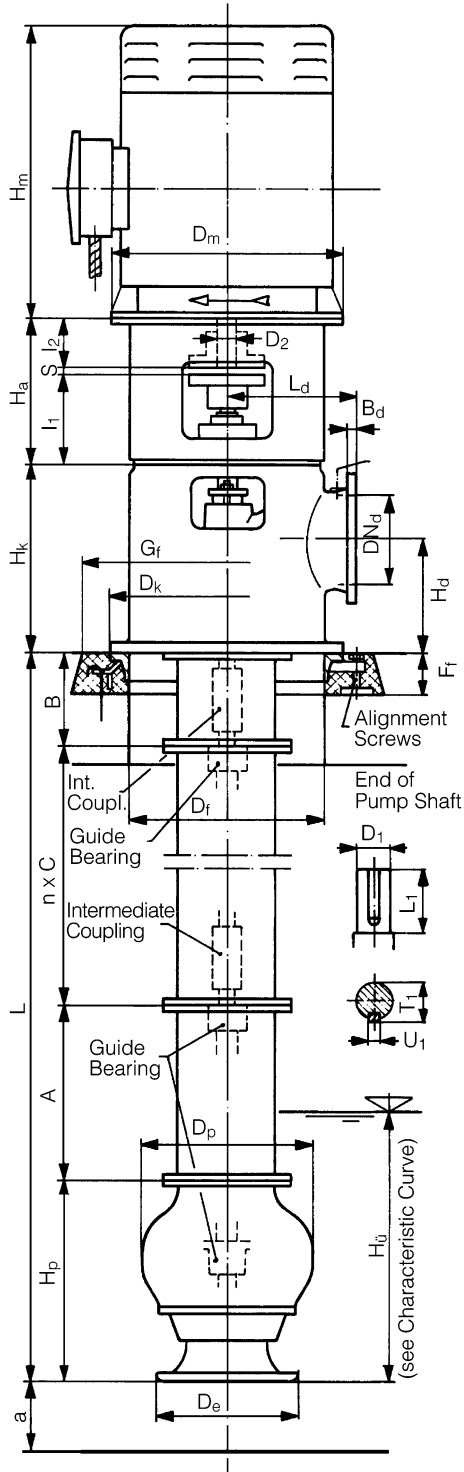
Main Dimensions – Below Floor											
Pump Size		Pump Part				Ground Level Distance					
		H _P	D _P	D _e		a					
600/4/580		1600	1150	890		450					
Susp. Length	Column Pipe Length ⁴⁾			Guide Bearings	Intern. Couplings	Susp. Length	Column Pipe Length ⁴⁾			Guide Bearings	Intern. Couplings
L	A	B	n x C	Piece	Piece	L	A	B	n x C	Piece	Piece
2200 to 2800	-	600 to 1200	-	1	0	6100 to 6700	1900 to 2500	-	1x2600	3	2
2900 to 3200	-	1300 to 1600	-	1	0	6800 to 7300	2000 to 2500	-	1x3200	3	2
3300 to 4100	1700 to 2500	-	-	2	1	7400 to 7700	2200 to 2500	1000	1x2600	3	2
4200 to 5100	1600 to 2500	1000	-	2	1	7800 to 8600	1700 to 2500	1900	1x2600	3	2
5200 to 6000	1700 to 2500	1900	-	2	1						

⁴⁾ Increment = 100

Design subject to alteration

Unit Dimensions

(Dimensions in mm)



Shaft end acc. to DIN 748
 Fitting key and key way
 acc. to DIN 6885
 Foundation opening grouted
 after alignment

Main Dimensions – Above Floor

Pump Size	Flange ¹⁾ DIN 2501/ISO 7005			Discharge Bend						
	DN _d	PN	B _d	H _d	L _d	H _k	D _k	D _f	G _f	F _f
600/5/500	600	10	36	700	700	1150	1410	1100	1700	170

Motor ²⁾							Motor Stool						
Prot. Class	Power (kW)	Size	D _m	l ₂	D ₂	H _m	I ₁	S	H _a	D ₁	L ₁	T ₁	U ₁
IP 23	160	315 M	800	170	90	990	401	5	546	80	170	85	22
	200	315 L				1010			616				
	250	315 L				1010			616				
	280	315 X				100			1220				
IP 54	160	315 L	660	140	80	1220	401	5	546	80	170	85	22
	200	355 S	800	210	100	1270			616				
	250	355 M	800	210	100	1270			616				
	315	400 L	1000			1490							

- ¹⁾ Other flange designs on request
- ²⁾ Max. motor dimensions see table "Technical Data"
- ³⁾ Main dimensions are approximate values for high voltage motors up to 6 kV

Main Dimensions – Below Floor

Pump Size	Pump Part			Ground Level Distance
	H _p	D _p	D _e	a
600/5/500	1100	730	750	400

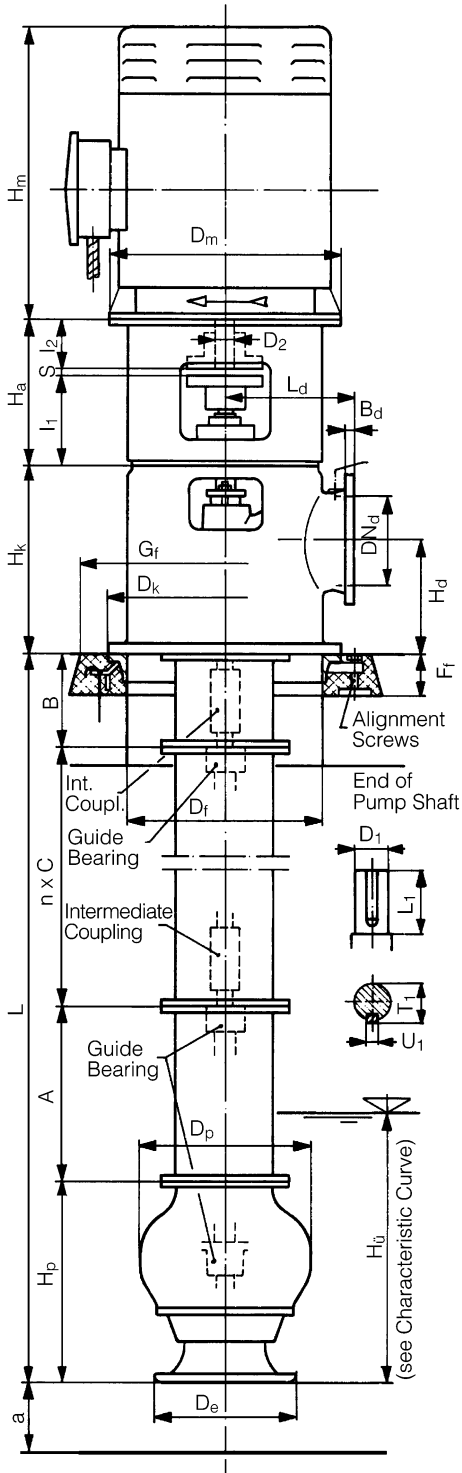
Susp. Length	Column Pipe Length ⁴⁾				Guide Bearings	Intern. Couplings	Susp. Length	Column Pipe Length ⁴⁾				Guide Bearings	Intern. Couplings
	L	A	B	n x C				Piece	Piece	L	A		
2200 to 3500	700 to 1100	400 to 1300	-	-	2	1	9000 to 9800	200 to 600	-	3x2500 to 2700	5	4	
3600 to 4800	400 to 1000	-	1x2100 to 1x2700	3	2								
4900 to 6200	500 to 1100	600 to 1300	1x2700	3	2								
6300 to 7500	600 to 1100	-	2x2400 to 2x2700	4	3								
7600 to 8900	200 to 600	500 to 1300	2x2700	4	3								

⁴⁾ Increment = 100

Design subject to alteration

Unit Dimensions

(Dimensions in mm)



Shaft end acc. to DIN 748
 Fitting key and key way
 acc. to DIN 6885
 Foundation opening grouted
 after alignment

Main Dimensions – Above Floor

Pump Size		Flange ¹⁾ DIN 2501/ISO 7005			Discharge Bend						
		DN _d	PN	B _d	H _d	L _d	H _k	D _k	D _f	G _f	F _f
600/7/530		600	10	42	700	770	1150	1410	1190	1700	170

Motor ²⁾						Motor Stool							
Prot. Class	Power (kW)	Size	D _m	l ₂	D ₂	H _m	l ₁	S	H _a	D ₁	L ₁	T ₁	U ₁
IP 23	400 - 630	³⁾	1100	210	110	2000	474	5	689	100	210	106	28
	400	400 X	900	170	95	1700	474	5	649	100	210	106	28
450	400 X												
IP 54	500	400 X	1000	210	110	1880	474	5	689	100	210	106	28
	560	450 X											
	630	450 X											

¹⁾ Other flange designs on request

²⁾ Max. motor dimensions see table "Technical Data"

³⁾ Main dimensions are approximate values for high voltage motors up to 6 kV

Main Dimensions – Below Floor

Pump Size		Pump Part			Ground Level Distance	
		H _p	D _p	D _e	a	
600/7/530		1180	940	890	450	

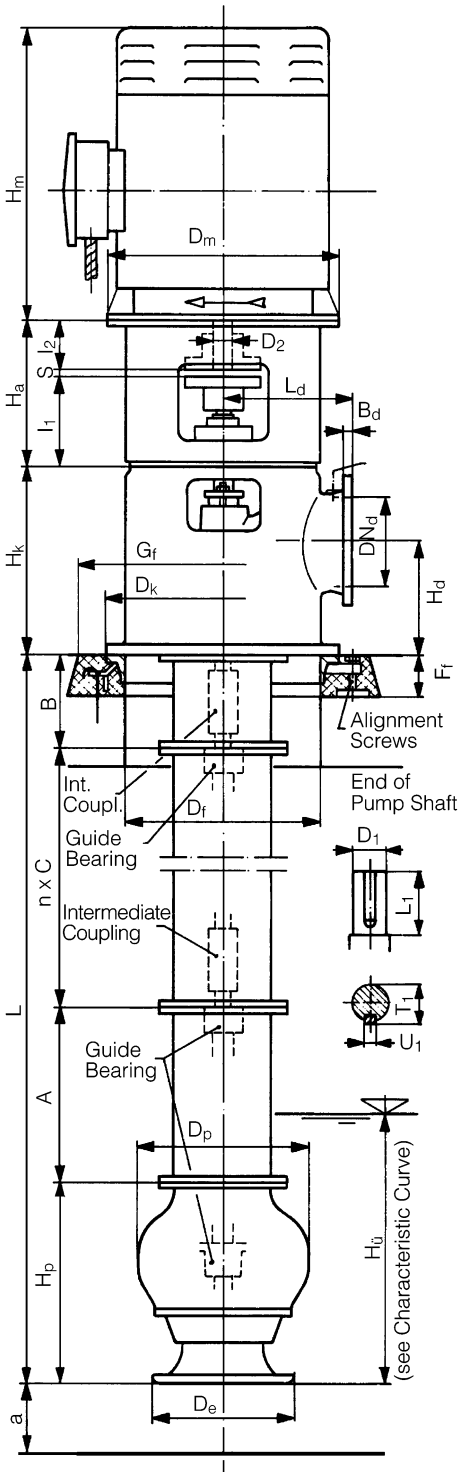
Susp. Length	Column Pipe Length ⁴⁾			Guide Bearings	Intern. Couplings	Susp. Length	Column Pipe Length ⁴⁾			Guide Bearings	Intern. Couplings		
	L	A	B				n x C	Piece	Piece			L	A
2500 to 2600	-	1300 to 1400	-	-	-								
2700 to 4400	1000 to 1400	500 to 1800	-	2	1								
4500 to 7500	400 to 1400	500 to 1800	1x1400 to 1x3100	3	2								
7600 to 9900	300 to 1400	500 to 1100	2x3000 to 2x3100	4	3								

⁴⁾ Increment = 100

Design subject to alteration

Unit Dimensions

(Dimensions in mm)



Shaft end acc. to DIN 748
 Fitting key and key way
 acc. to DIN 6885
 Foundation opening grouted
 after alignment

Main Dimensions – Above Floor													
Pump Size		Flange ¹⁾ DIN 2501/ISO 7005			Discharge Bend								
		DN _d	PN	B _d	H _d	L _d	H _k	D _k	D _f	G _f	F _f		
600/9/630		600	10	42	700	700	1175	1590	1360	1900	180		
Motor ²⁾						Motor Stool							
Prot. Class	Power (kW)	Size	D _m	l ₂	D ₂	H _m	l ₁	S	H _a	D ₁	L ₁	T ₁	U ₁
IP 23	500-1000	³⁾	1200	210	110	2300	474	5	689	110	210	116	28
	500	400 X	1000	210	95	1700	474	5	649	110	210	116	28
IP 54	560	450 X			110	1880			689				
	630	450 X			110	1880							
	710	450 X											
	800	450 X			120	2200							
900	500 X												
	1000	500 X											

- ¹⁾ Other flange designs on request
- ²⁾ Max. motor dimensions see table "Technical Data"
- ³⁾ Main dimensions are approximate values for high voltage motors up to 6 kV

Main Dimensions – Below Floor													
Pump Size		Pump Part			Ground Level Distance								
		H _p	D _p	D _e	a								
600/9/630		1300	1160	775	400								
Susp. Length	Column Pipe Length ⁴⁾				Guide Bearings	Intern. Couplings	Susp. Length	Column Pipe Length ⁴⁾				Guide Bearings	Intern. Couplings
	L	A	B	n x C				Piece	Piece	L	A		
2700	-	1300	-	-	-	-							
2800 to 4700	1000 to 1400	400 to 1900	-	2	1								
4800 to 8000	400 to 1400	400 to 1900	1x3000 to 1x3300	3	2								
8100 to 9900	400 to 1400	500	2x3300	4	3								

⁴⁾ Increment = 100

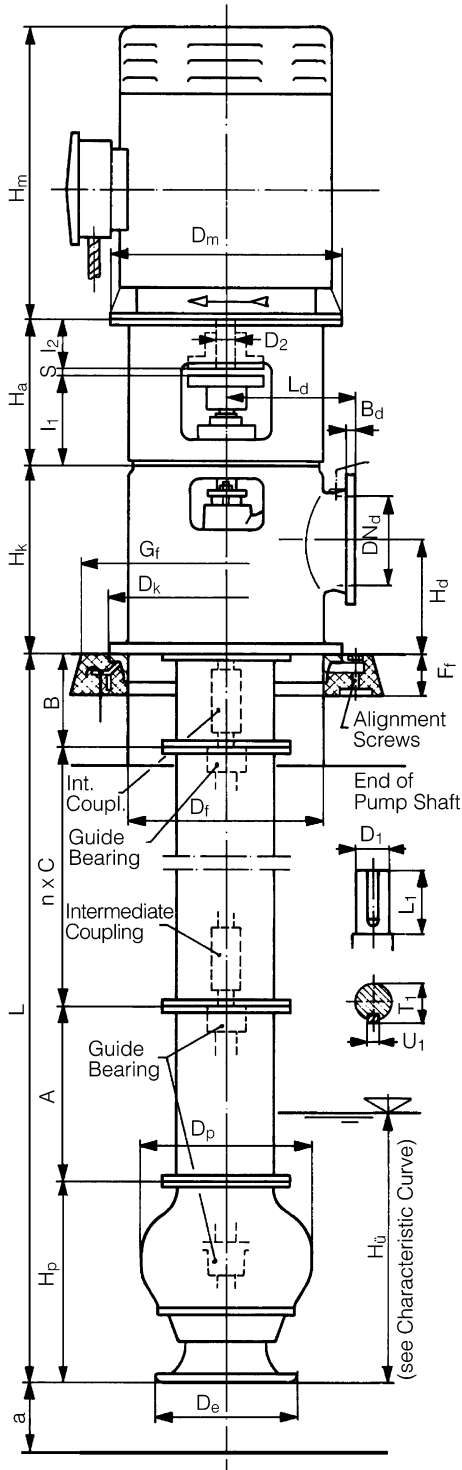
Design subject to alteration

TR 700/4/630

 $n = 740 \text{ min}^{-1}$

Unit Dimensions

(Dimensions in mm)



Shaft end acc. to DIN 748
 Fitting key and key way
 acc. to DIN 6885
 Foundation opening grouted
 after alignment

Main Dimensions – Above Floor

Pump Size		Flange ¹⁾ DIN 2501/ISO 7005			Discharge Bend								
		DN _d	PN	B _d	H _d	L _d	H _k	D _k	D _f	G _f	F _f		
700/6/630		700	10	42	700	700	1150	1400	1200	1700	170		
Motor ²⁾							Motor Stool						
Prot. Class	Power (kW)	Size	D _m	l ₂	D ₂	H _m	I ₁	S	H _a	D ₁	L ₁	T ₁	U ₁
IP 23	230 - 350 ³⁾		1150	210	100	1650	405	5	620	90	170	95	25
	415 - 650 ³⁾		1360		120	1790							
IP 54	270	355 Y/2	800			1520	405	5	620	90	170	95	25
	160 - 250 ³⁾		1150	210	100	1940							
	270 - 400 ³⁾		1360			1950							

¹⁾ Other flange designs on request

²⁾ Max. motor dimensions see table "Technical Data"

³⁾ Main dimensions are approximate values for high voltage motors up to 6 kV

Main Dimensions – Below Floor

Pump Size		Pump Part			Ground Level Distance							
		H _p	D _p	D _e	a							
700/6/630		1500	1060	890	450							
Susp. Length	Column Pipe Length ⁴⁾				Guide Bearings	Intern. Couplings	Susp. Length	Column Pipe Length ⁴⁾			Guide Bearings	Intern. Couplings
	L	A	B	n x C				Piece	Piece	L		
2200 to 2900	-	700 to 1400	-	1	0		6400 to 7000	2100 to 2700	-	1x2800	3	2
3000 to 3300	-	1500 to 1800	-	1	0		7100 to 7600	2200 to 2700	-	1x3400	3	2
3400 to 4200	1900 to 2700	-	-	2	1		7700 to 8000	2400 to 2700	1000	1x2800	3	2
4300 to 5200	1800 to 2700	1000	-	2	1		8100 to 9100	1700 to 2700	2100	1x2800	3	2
5300 to 6300	1700 to 2700	2100	-	2	1							

⁴⁾ Increment = 100

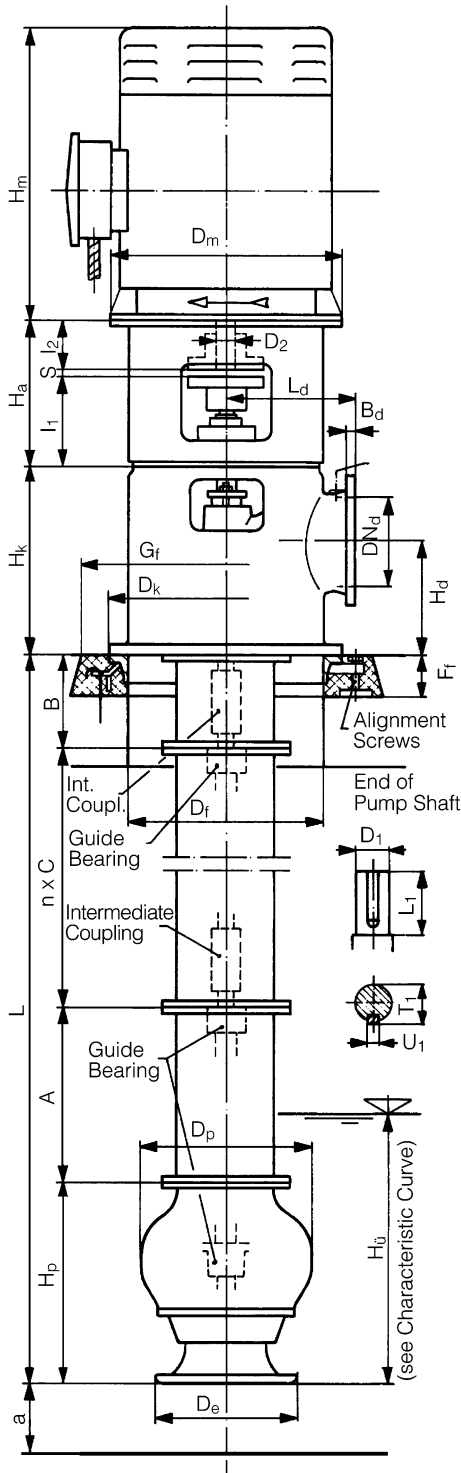
Design subject to alteration

TR 700/7/681

 $n = 740 \text{ min}^{-1}$

Unit Dimensions

(Dimensions in mm)



Shaft end acc. to DIN 748
 Fitting key and key way
 acc. to DIN 6885
 Foundation opening grouted
 after alignment

Main Dimensions – Above Floor

Pump Size	Flange ¹⁾ DIN 2501/ISO 7005			Discharge Bend						
	DN _d	PN	B _d	H _d	L _d	H _k	D _k	D _f	G _f	F _f
700/7/680	700	10	40	800	800	1300	1600	1400	1900	180

Motor ²⁾							Motor Stool						
Prot. Class	Power (kW)	Size	D _m	l ₂	D ₂	H _m	l ₁	S	H _a	D ₁	L ₁	T ₁	U ₁
IP 23	900-1500	³⁾	1450	250	140	2490	474	5	729	120	210	127	32
	900-1500	³⁾	1450	250	140	2490	474	5	729	120	210	127	32

¹⁾ Other flange designs on request

²⁾ Max. motor dimensions see table "Technical Data"

³⁾ Main dimensions are approximate values for high voltage motors up to 6 kV

Main Dimensions – Below Floor

Pump Size	Pump Part			Ground Level Distance
	H _p	D _p	D _e	a
700/7/680	1360	1100	1100	550

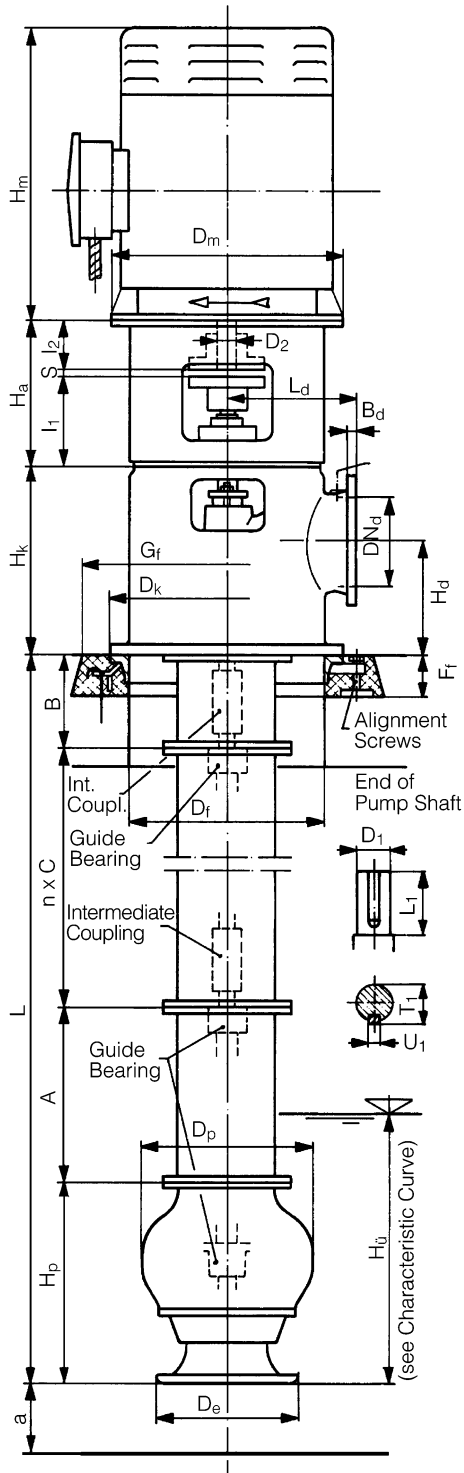
Susp. Length	Column Pipe Length ⁴⁾			Guide Bearings	Intern. Couplings	Susp. Length	Column Pipe Length ⁴⁾			Guide Bearings	Intern. Couplings
	L	A	B				n x C	Piece	Piece		
2900 to 4300	1500 to 2900	-	-	2	1						
4400 to 6300	2400 to 2900	600 to 2000	-	2	1						
6400 to 7700	1600 to 2900	-	1x3400	3	2						
7800 to 9700	2900	700 to 2000	1x2900 to 1x3400	3	3						

⁴⁾ Increment = 100

Design subject to alteration

Unit Dimensions

(Dimensions in mm)



Shaft end acc. to DIN 748
 Fitting key and key way
 acc. to DIN 6885
 Foundation opening grouted
 after alignment

Main Dimensions – Above Floor

Pump Size	Flange ¹⁾ DIN 2501/ISO 7005			Discharge Bend						
	DN _d	PN	B _d	H _d	L _d	H _k	D _k	D _f	G _f	F _f
700/8/685	700	10	45	800	800	1300	1600	1360	1900	180

Motor ²⁾							Motor Stool						
Prot. Class	Power (kW)	Size	D _m	l ₂	D ₂	H _m	l ₁	S	H _a	D ₁	L ₁	T ₁	U ₁
IP 23	355 - 710 ³⁾		1200	210	110	2300	474	5	689	100	210	106	28
IP 54	355	400 X	900	170	95	1700	474	5	649	100	210	106	28
	400	450 X	1000	210	110	1880							
	450	450 X											
	500	450 X	1150	120	2200								
	630	500 X											
710	500 X												

¹⁾ Other flange designs on request

²⁾ Max. motor dimensions see table "Technical Data"

³⁾ Main dimensions are approximate values for high voltage motors up to 6 kV

Main Dimensions – Below Floor

Pump Size	Pump Part			Ground Level Distance
	H _p	D _p	D _e	a
700/8/685	1360	1180	890	450

Susp. Length	Column Pipe Length ⁴⁾				Guide Bearings	Intern. Couplings	Susp. Length	Column Pipe Length ⁴⁾				Guide Bearings	Intern. Couplings
	L	A	B	n x C				Piece	Piece	L	A		
3100	-	1700	-	-	-	-							
3200 to 5400	1200 to 1700	600 to 2300	-	2	1								
5500 to 9100	500 to 1700	600 to 2300	1x3600 to 1x3700	3	2								
9200 to 9900	400 to 1100	-	2x3700	4	3								

⁴⁾ Increment = 100

Design subject to alteration



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Ruhrpumpen – Specialist for Pumping Technology

Production Programme

Pumps for the Process Industry

in horizontal and vertical design according to API 610, 8th edition for pumping heavy and light Hydrocarbons, for use as

- Crude Oil, Water and Product Pipeline Pumps
 - Booster Pumps
 - Injection Pumps
 - Cavern Leaching Pumps
 - Oil Loading Pumps
 - Process Pumps
 - Tank Field Pumps
 - Low Temperature Pumps
 - Canister Pumps
 - Transfer Pumps
- in single stage or multi-stage design

Horizontal High-Pressure Reciprocating Pumps

for pressures up to 630 bar and more, also according to API 674 for use as

- Additive Injection Pumps
- Leakage Injection Pumps
- Stuffing Box Flushing Pumps

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in horizontal and vertical design for pumping

- Fire-fighting Water
- River Water
- Ground Water
- Cooling Water
- Rain Water
- Raw Water
- Sea Water
- Drinking Water
- Warm Water
- Sewage
- Combined Sewage
- Sludge

as volute centrifugal pumps, propeller pumps, mixed flow pumps and submersible pumps

Pumps for Floating and Dry Docks

in vertical design for use as

- Ballast Pumps
 - Fire-fighting Pumps
 - Main Bilge Pumps
- as volute centrifugal pumps and segmental type pumps

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Reverse-running centrifugal pumps as turbines for energy recovery purpose

SYNERGETIC RETROFIT®

Optimization of your existing centrifugal pump installation, including those from other manufacturers