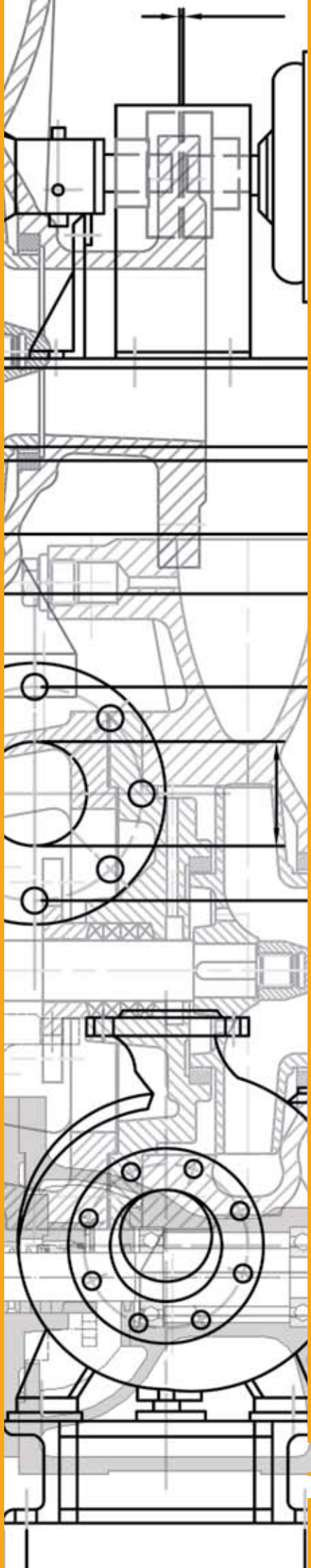
MZT PUMPI

M,VM - SEWAGE PUMP

PUMP YOUR WAY TO SUCCESS

Catalog 2008



MZT Pumpi a.d is one of the leading manufacturers of industrial pumps in the region of South-East Europe. With its extensive experience of more than 60 years, justified with existence of broad product range, it continuously strives to satisfy the utmost needs of the customer.

The key elements to survive in this globalized market are flexibility towards market changes and ability to innovate-both in product designs as well as business processes. By following the worldwide development in the pump industry, our staff constantly faces with the growing challenge to keep abreast of the numerous innovations in pump designs and this is justified by having a separate R&D department.

The basic objective of MZT Pumpi is expanding the business partnerships and building the brand name of our products worldwide. All of our employees live up to our motto: ”Pump your way to success”.

CONTENT

GENERAL DATA

Technical data:

Capacity:	Up to 200 l/sec
Head:	Up to 48 m
Temperature:	Up to 80 °C

Pump type key

Example: M75

M – Design code

75 – Design range

Design code execution:

M – Standard execution

VM – Vertical execution

Design:

Pump, model M and VM, with open type of impeller, are centrifugal pumps of horizontal and vertical performance. These pumps are intended for pumping impure liquids with firm particles, such as waste waters, feces, sludge water and other ingredients at temperature not exceeding 80°C. Via an elastic coupling or a periflex one, these pumps can be connected to an electric motor in normal performance or to motor in explosive protection and by special request, to diesel or petrol motor.

These are single-stage with spiral case pumps. The suction joint is axial, connected to the pipe, and the discharge one is radial, turned to the center upwards.

Applications:

- Sewage fluids
- Sludge and fecal water
- Waste water treatment plants

Standard material executions:

-Pump case, shaft bearing bracket and impeller in cast iron.

-Pump shaft and shaft sleeves in stainless steel.

-Other material combinations are available on special demand or due to the properties of the liquid.

Flexible coupling:

-Standard version (elastic or periflex)

-Spacer coupling that permits the motor to remain in place during dismantling to avoid subsequent alignment. (back-pull-out design)

Bearing assembly with shaft:

The bearing assembly includes two roller bearings in separate bracket, lubricated with nipple greasers or oil lubrication.

Shaft sealing:

The shaft sealing could be arranged by soft packing or mechanical seal. Sealing between the spindle and bracket could be with felt ring and radial seal rings. On special demand the pumps could be furnished with mechanical seal in accordance with the characteristics of the liquid and the operating conditions.

Range of program:

A wide variety of models makes it possible to select a demand pump. Proper choice is important in order to minimize the energy consumption and to assure long trouble-free operation of the pump.

Performance

The performance curves are given in the diagrams bellow, indicating: Q-H, Q-P, Q-efficiency. SCP pumps can operate continuously in whole the operating region within the motor power limitation. All the pumps can run at different speeds, depending on the size of the pump and the customer requirements.

GENERAL DATA – DESIGN

Wear rings

Renewable wear rings are furnished in order to achieve the best pump performance and ease the maintenance.

Shaft sealing

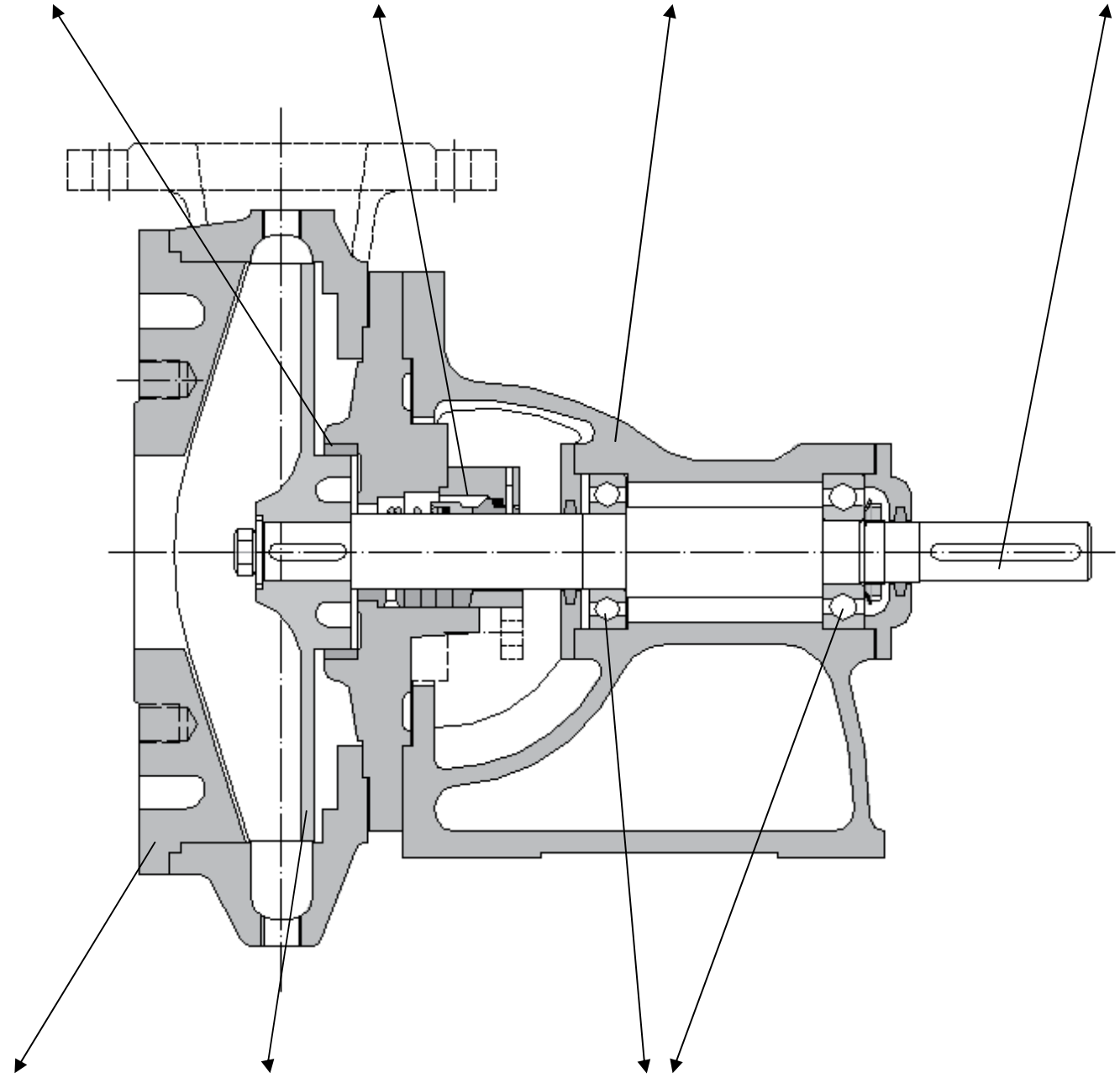
SCP pumps can be fitted with most sealing arrangements:
-soft packing
-mechanical seal

Shaft bearing bracket

The heavy duty console with incorporated lantern assures silent and reliable operation.

Shaft

High quality stainless steel shaft, preciously machine and ground.



Pump case

The pump case is of rigid design with a generous wall thickness, giving good protection against erosion and corrosion.

Impeller

Open type of impeller, singlepiece casting gives reliability, long trouble-free operation and high efficiency.

Bearings

Ample dimensioned single and double row ball bearings improve the stiffness and minimize shaft deflection.

GENERAL DATA – VERTICAL DESIGN

Coupling

Connection between the electric motor and the pump is carried out by means of an elastic coupling.

Pipes

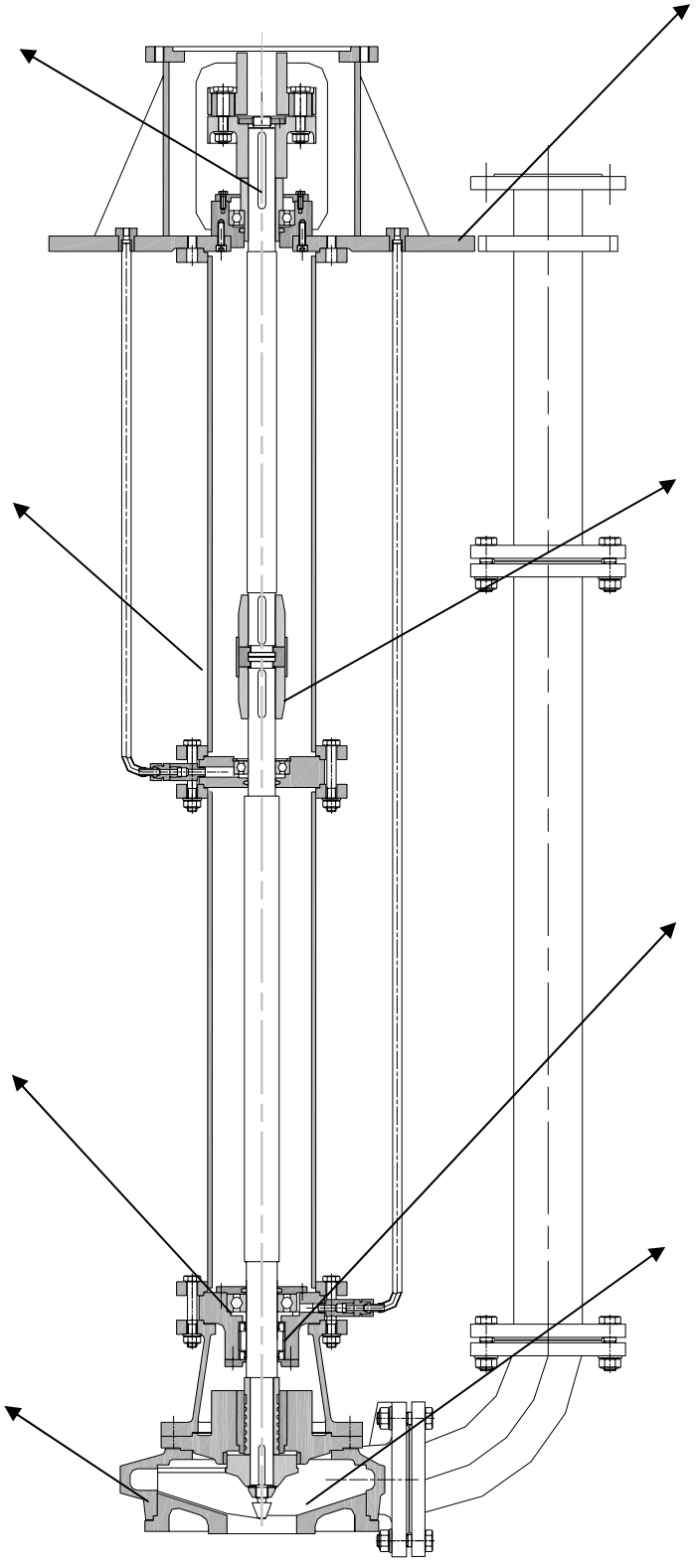
The required depth for pump fitting is realized with assembly of certain number of interpipes with welded flanges.

Bearings

The vertical transmission of the pump bears upon two rolling bearings and the weight and axial force, upon the upper semi-axial rolling bearing. The bearings are grease lubricated.

Pump case

The pump case is of rigid design with a generous wall thickness, giving good protection against erosion and corrosion.



Supporting base

The base support is of welded design with supporting rolling bearings. In order to fasten the whole pump set, there must be provided a supporting frame, or steel profile. The profile is concreted in a plant plate.

Shaft

The shafts are mutually connected with firm couplings.

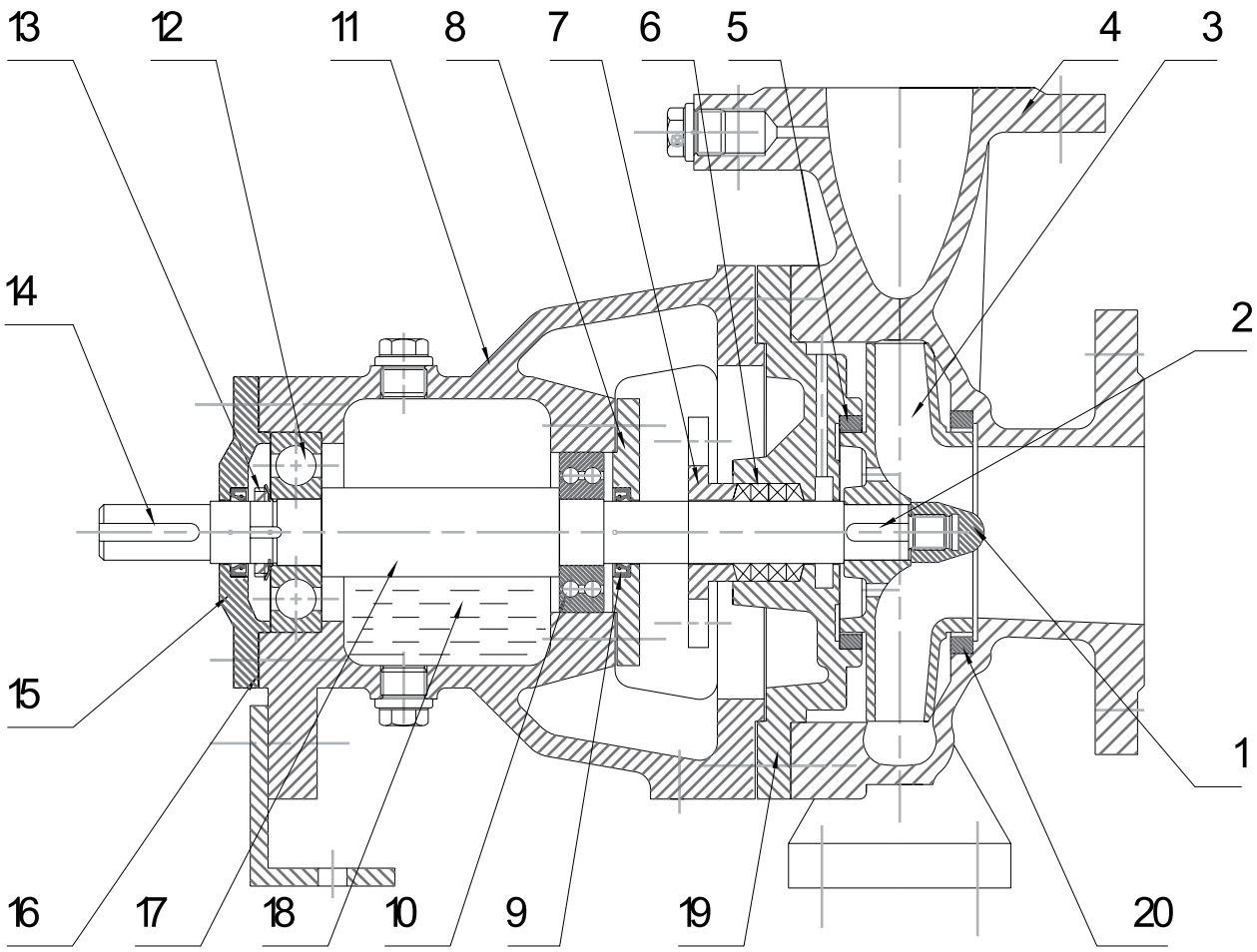
Sealing

The sealing between the hydraulic part and transmission is performed by means of mechanical seal or asbestosgraphite-cotton gasket.

Impeller

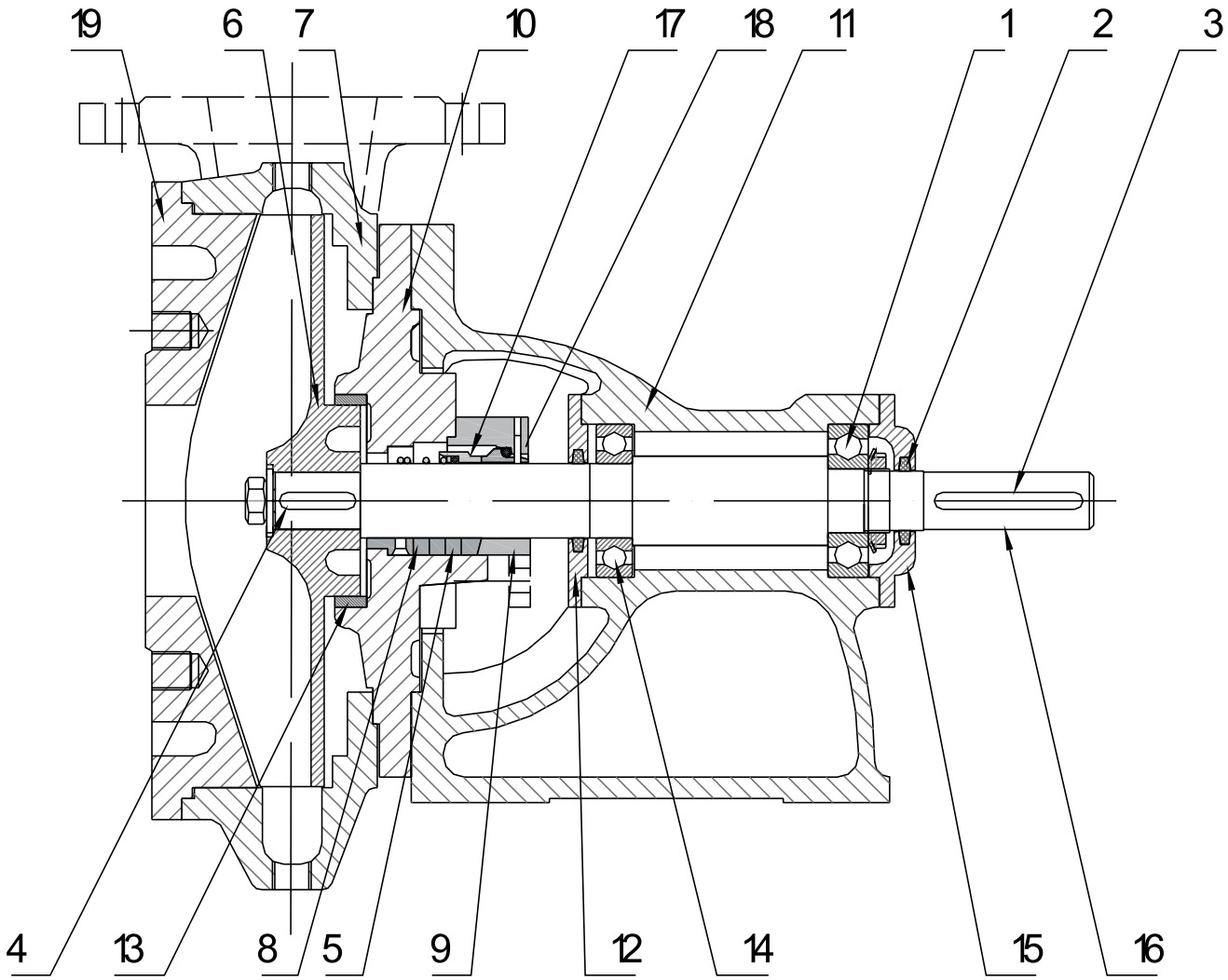
The impeller, as well as the remaining rotation parts is dynamically balanced.

TEHNICAL DATA - Sectional drawing of M3



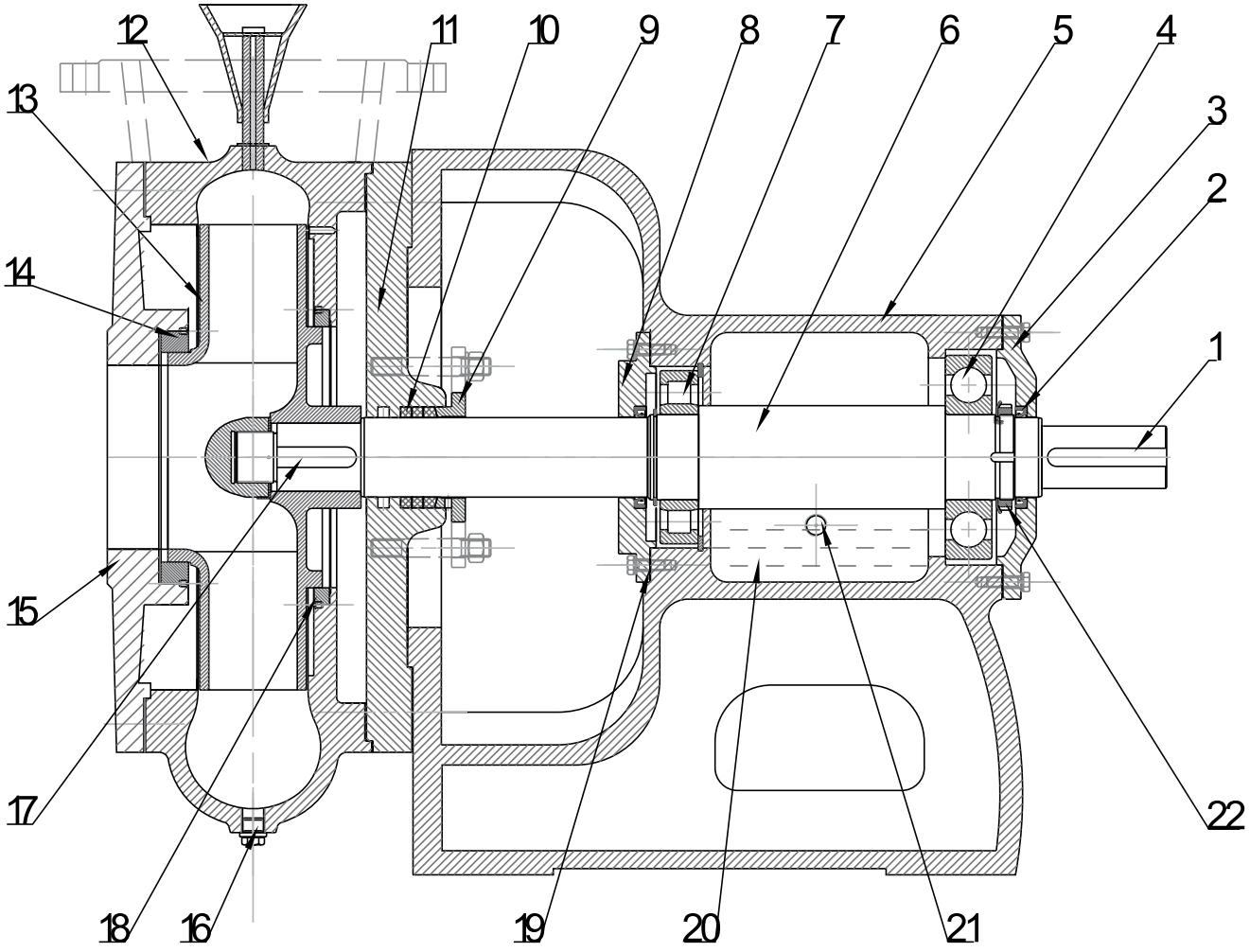
Pos.	Description	Pos.	Description
1.	Shaft nut	**11.**	Bearing housing
2.	Shaft key	**12.**	Rolling bearing
3.	Impeller	**13.**	Lock nut
4.	Pump casing	**14.**	Key
5.	Wear ring	**15.**	Bearing cover
6.	Soft packing	**16.**	Gasket – klingerit
7.	Gland	**17.**	Shaft
8.	Bearing cover	**18.**	Oil
9.	Radial seal ring	**19.**	Intermediate part
10.	Ball Bearing		Wear ring

TEHNICAL DATA - Sectional drawing of M6



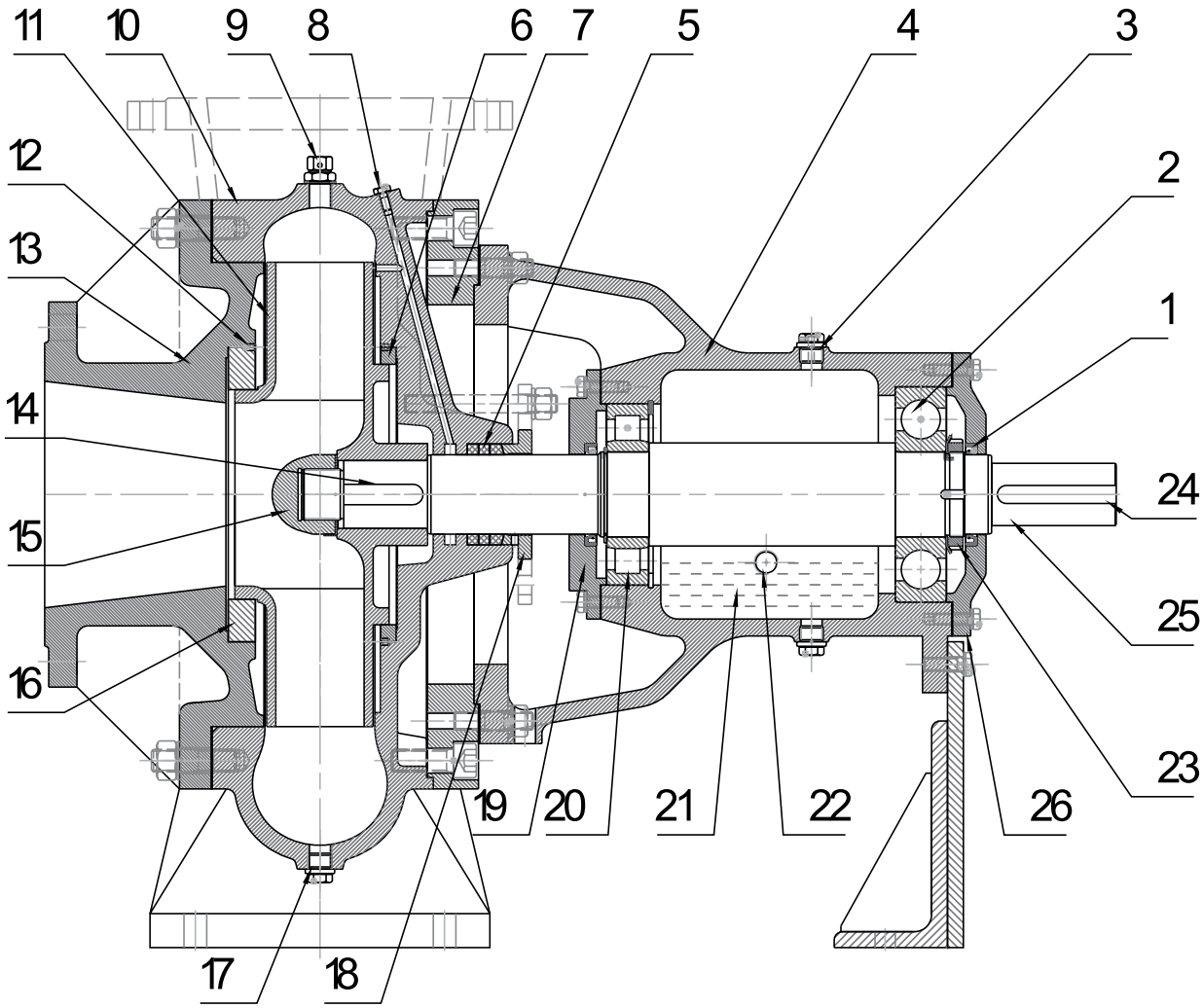
Pos.	Description	Pos.	Description
1.	Rolling bearing	**11.**	Bearing housing
2.	Felt ring	**12.**	Bearing cover
3.	Key	**13.**	Wear ring
4.	Impeller key	**14.**	Ball bearing
5.	Soft packing	**15.**	Beck cover
6.	Impeller	**16.**	Shaft
7.	Spiral housing	**17.**	Mechanical seal
8.	Bushing	**18.**	Mechanical seal cover
9.	Gland	**19.**	Cap
10.	Intermediate part		

TEHNICAL DATA - Sectional drawing of M30



Pos.	Description	Pos.	Description
1.	Key	12.	Spiral housing
2.	Radial seal ring	13.	Impeller
3.	Back cover	14.	Wear ring
4.	Rolling bearing	15.	Cap
5.	Bearing casing	16.	Packing screw
6.	Shaft	17.	Key
7.	Bearing	18.	Wear ring
8.	Bearing cover	19.	Gasket - klingerit
9.	Gland	20.	Oil
10.	Soft packing	21.	Oil indicator
11.	Intermediate part	22.	Lock nut

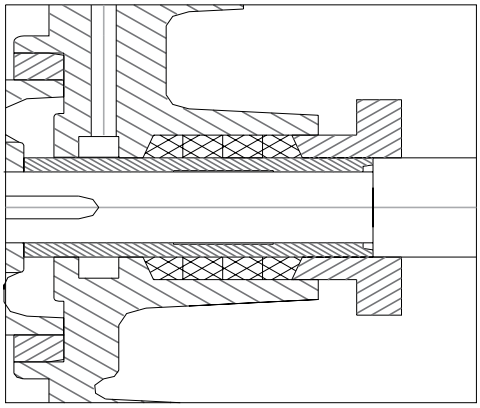
TEHNICAL DATA - Sectional drawing of M75



Pos.	Description	Pos.	Description
1.	Radial seal ring	**14.**	Key
2.	Ball bearing	**15.**	Nut
3.	Packing screw	**16.**	Wear ring
4.	Bearing casing	**17.**	Packing screw
5.	Soft packing	**18.**	Gland
6.	Wear ring	**19.**	Bearing cover
7.	Intermediate part	**20.**	Bearing
8.	Screw	**21.**	Oil
9.	Air hole	**22.**	Oil indicator
10.	Spiral housing	**23.**	Lock nut
11.	Impeller	**24.**	Key
12.	Bare screw	**25.**	Shaft
13.	Cap	**26.**	Back cover

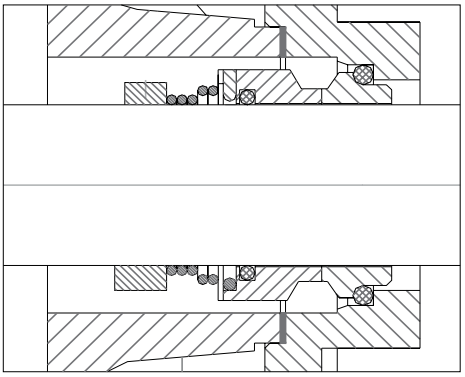
TEHNICAL DATA

Stuffing boxes



- Uncooled stuffing box without internal barrier fluid

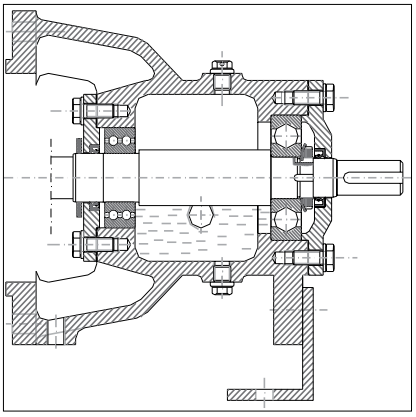
Single mechanical seal shaft



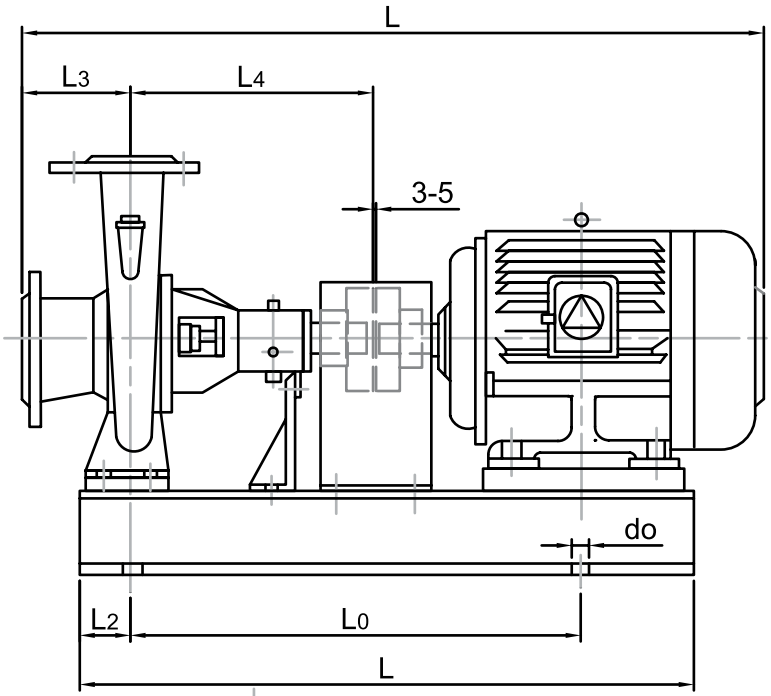
- Mechanical single or double seal on standard execution

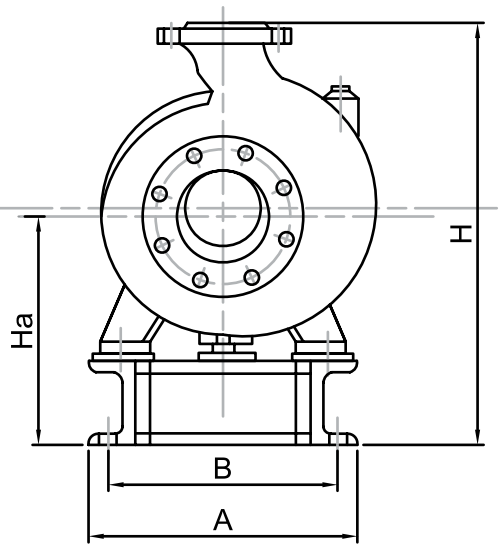
Bearing Bracket

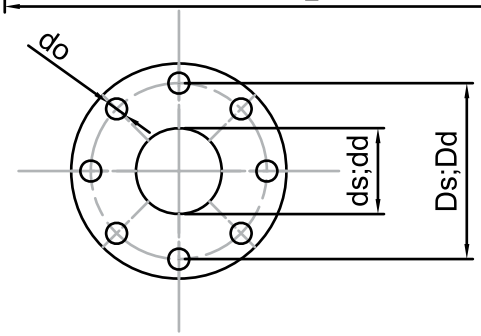
- Shaft is carried by in a pumpside roller bearing and a drive-side double ball bearing, oil lubricated. Bearing covers on both sides with ring seals. Leakage collector (standard for pumps with stuffing box)



TECHNICAL DATA – Main dimensions of M3



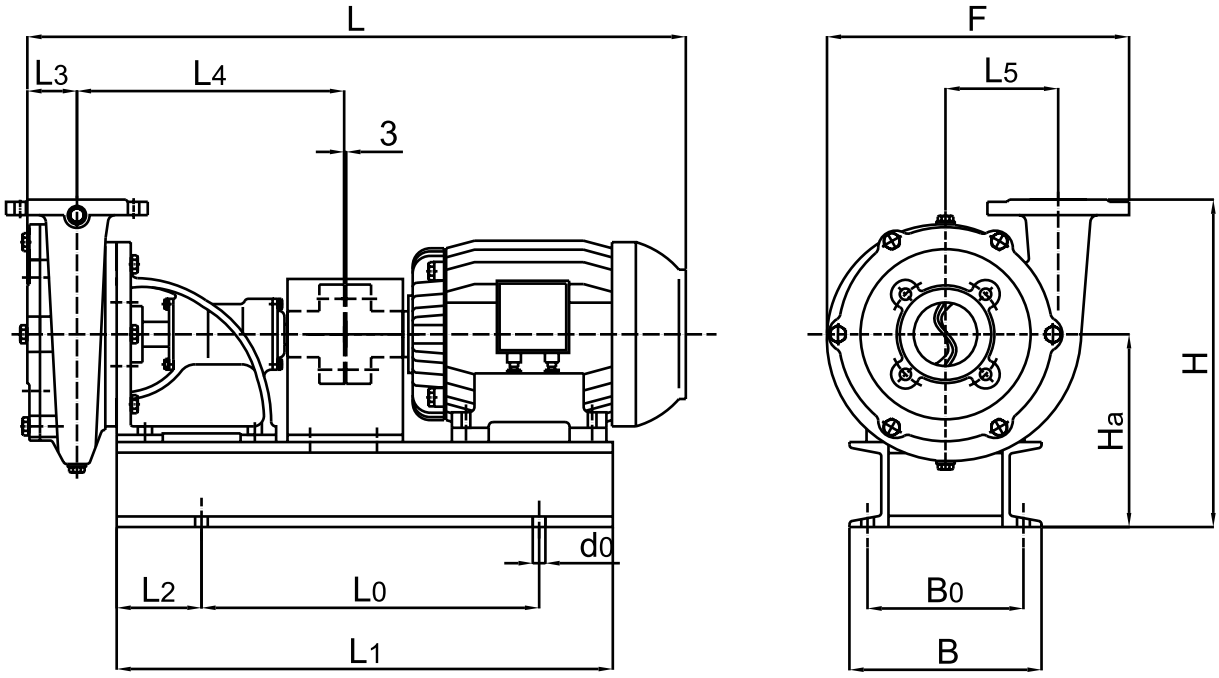




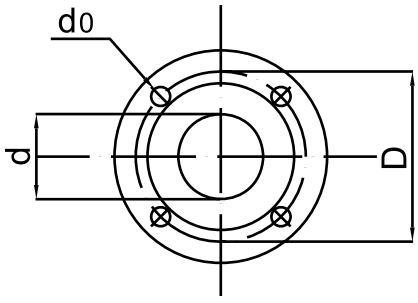
siction flange NP10
discharge flange NP16
according to JUS MB 6053

PUMP TYPE	rpm	kw	L	L_0	L_1	L_2	L_3	L_4	A	A_0	H	Ha	Ds	ds	Dd	d_0	G(kg)	
													z	dd	z		pump	aggreg
M 3	1450	3	840	553	695.5	55	110	360	265	215	490	290	160	80	145	18	53	125
M 3c		1.5	795	528.5	661				265	215			4	65	4			107

TECHNICAL DATA – Main dimensions of M6

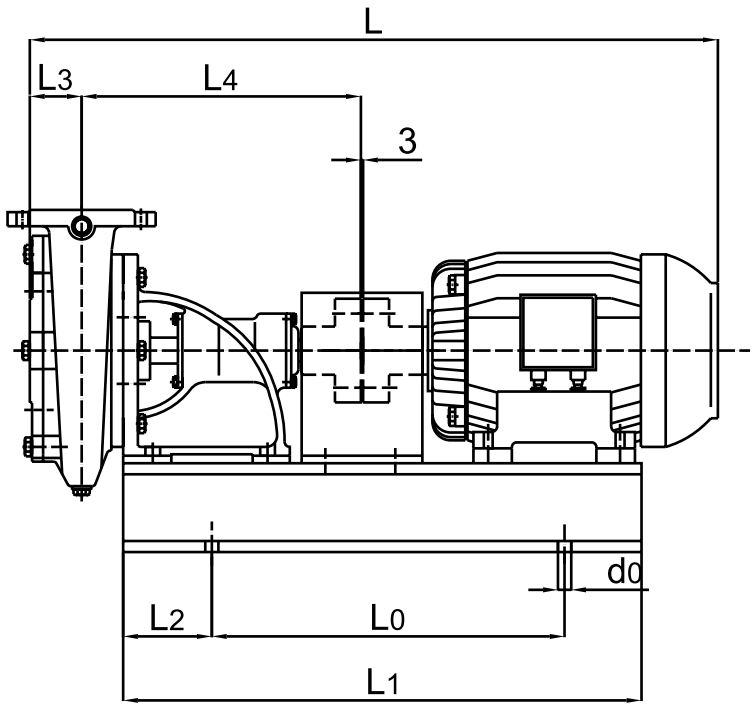


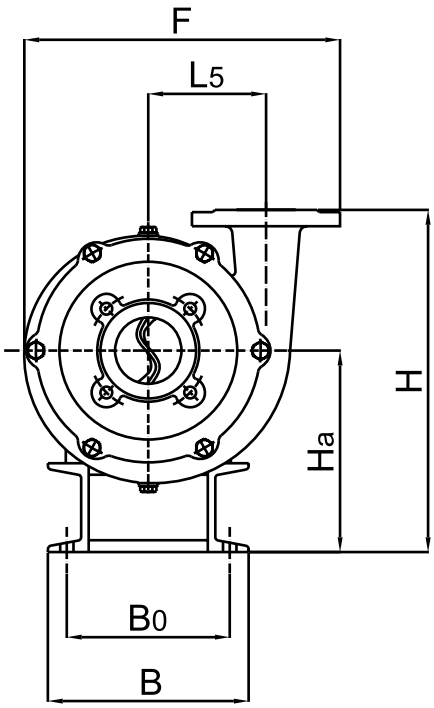
suction and discharge flanges
according to: JUS MB 6053



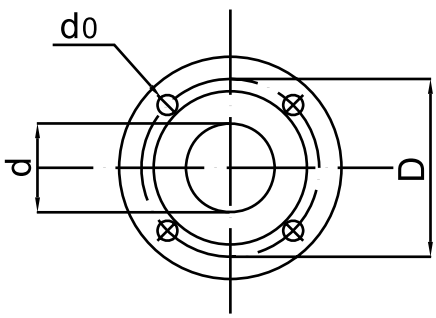
PUMP TYPE	rpm	kW	L	L_0	L_1	L_2	L_3	L_4 / L_5	B	B_0	H	Ha	D / z	d / s	d_0	F	G(kg) pump	G(kg) unit
M 6a	1450	7.5	935	465	700	120	100	384	280	140	446	250	160	80	18	440	60	196
M 6b		5.5	925	445	600													189
M 6c		5.5						159					4	18				
M 6a/ 6	960	2.2	865	405	615				240	190								142
M 6c/ 6		1.5	860		610				200	160								136

TECHNICAL DATA – Main dimensions of M30



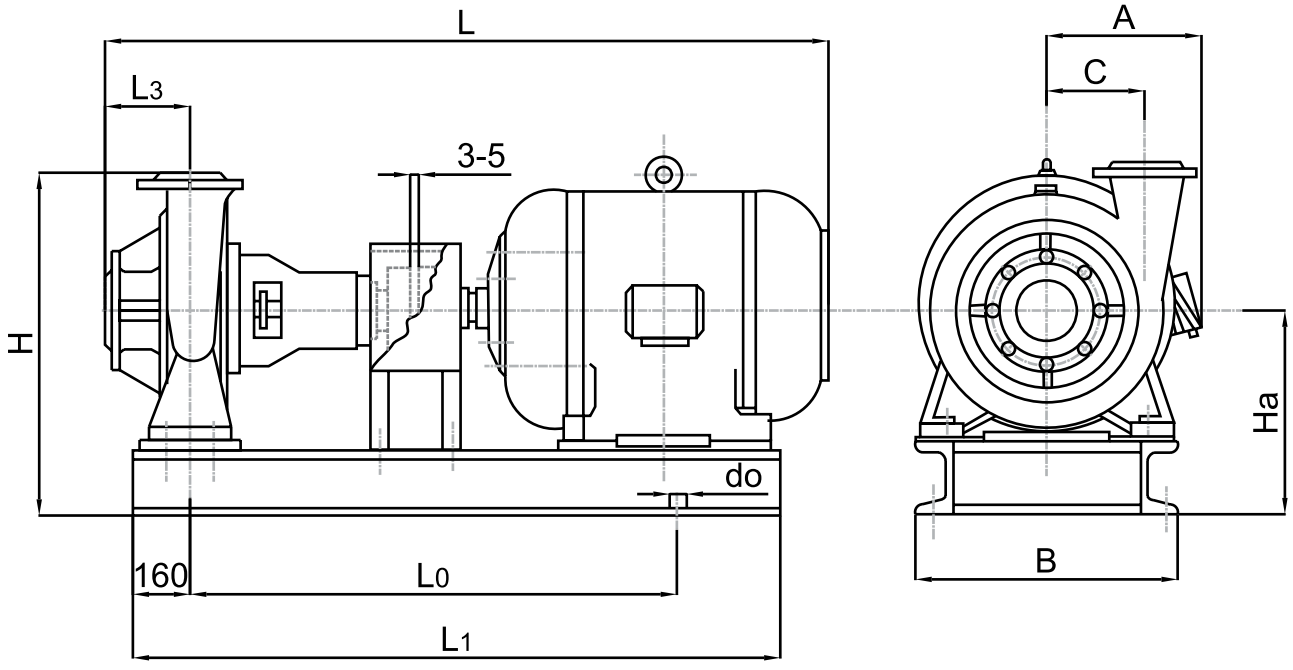


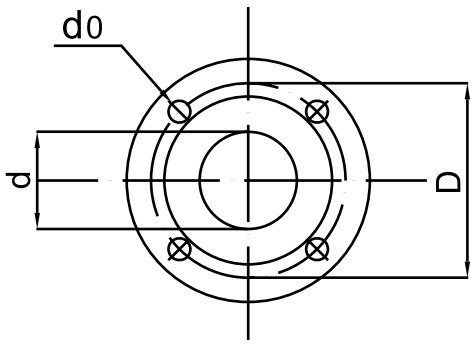
suction and discharge flanges
according to: JUS MB 6053



PUMP TYPE	rpm	kw	L	L_0	L_1	L_2	L_3	L_4 / L_5	B	B_0	H	Ha	D / z	d / s	d_0	F	G(kg) pump	G(kg) unit
M 30a	1450	15	1310	630	990	180	86	570	335	285	670	340	210	125	18	490	145	305
M 30b		11	1265		940													278
M 30c																		
M 30d								190					8	18				
M 30a/ 6	960	4	1050	510	775													238
M 30d/ 6		3	1040															222

TECHNICAL DATA – Main dimensions of M75

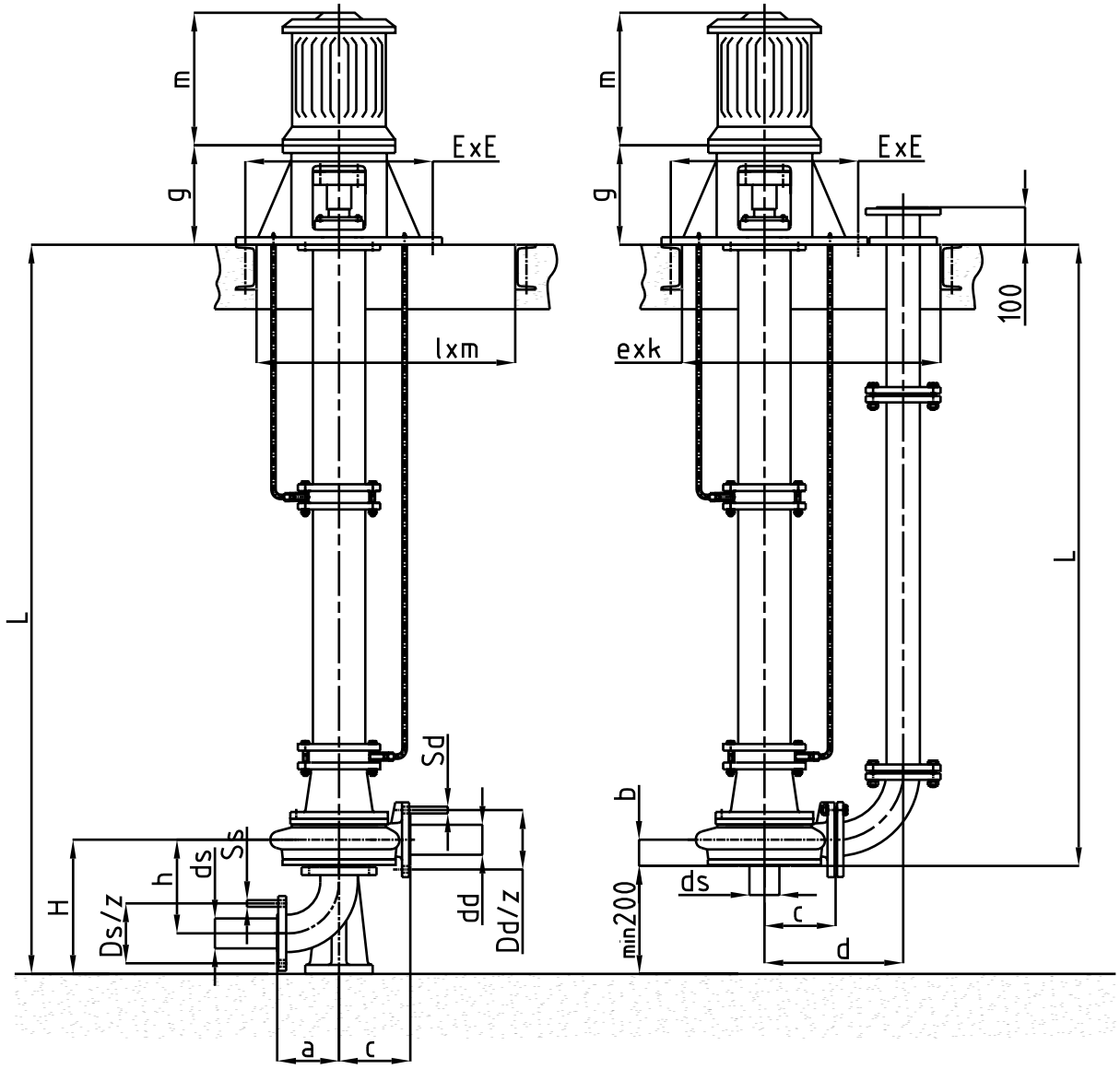




suction and discharge flanges
according to: JUS MB 6053

PUMP TYPE	rpm	kW	L	L_0	L_1	L_2	L_3	L_4 / L_5	B	B_0 / B_1	H	Ha	D / z	d / s	d_0	F	G(kg) pump	G(kg) unit
M 75	1450	110	2055	1400	1720	160	242	732	640	580	920	570	295	200	26	750	415	1215
		90	2013	1380	1700			273		525			8	23				1045
		75	1932	1340	1660					565								995
M 75	960	30	1785	1150	1510	160	242	732	640	580	920	570	295	200	26	750	415	700
		22	1711	1100	1460			273					8	23				635
		15	1645	1000	1415													600

TECHNICAL DATA – Main dimensions of VM3, VM6, VM30, VM75



pump type	motor		Ds/z	Dd/z	Ss/Sd	ds/dd	a	b	c	d	H	exk	lxm	ExE	g	m	h	L
	rpm	kW																
VM3	1450	3	160/4	145/4	18/18	80/65	125	110	200	366	398	450/700	400/650	500x500	250	314	290	on request
VM3a		2.2																
VM3b		1.5																

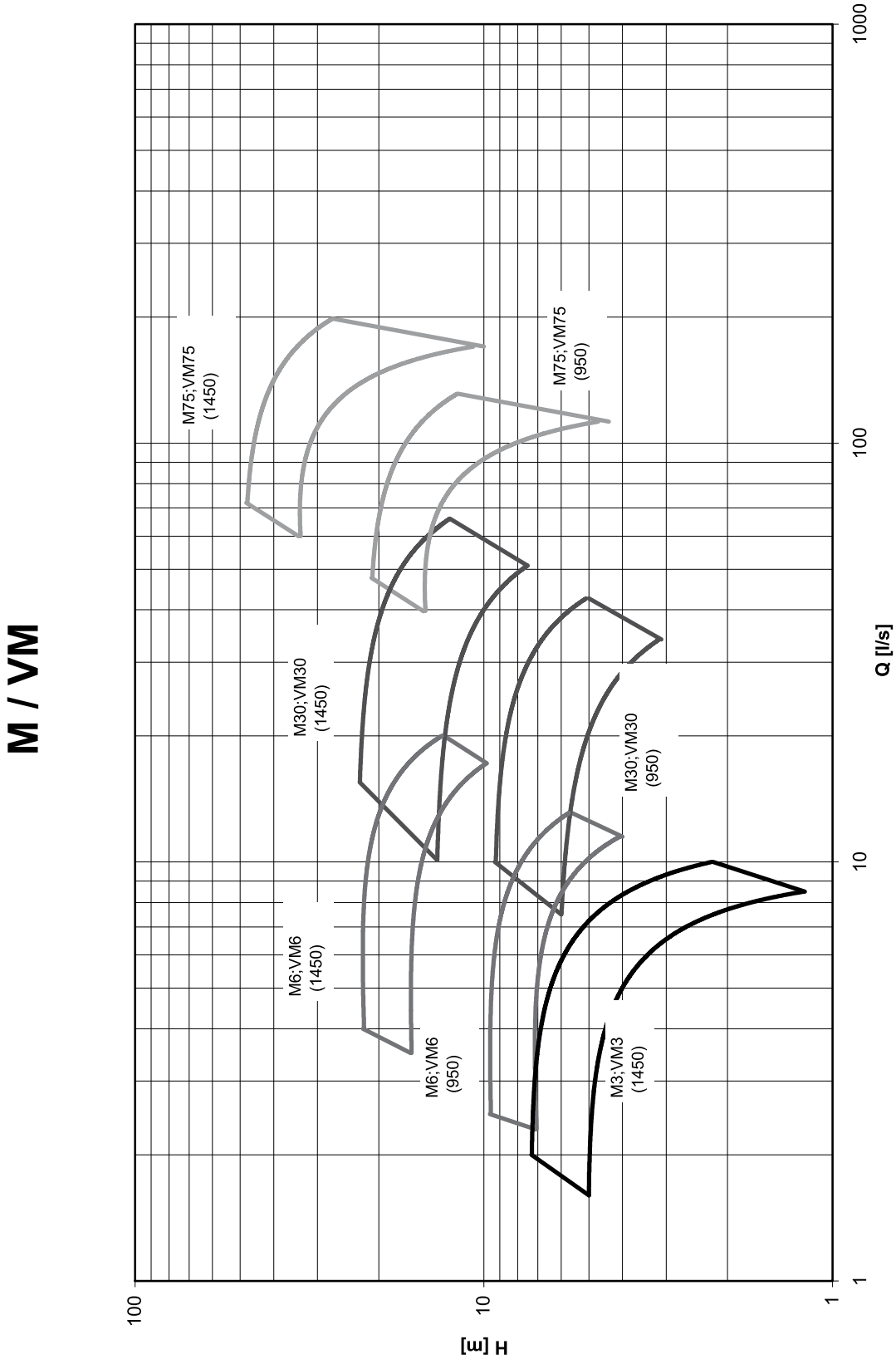
TECHNICAL DATA

ump type	motor		Ds/z	Dd/z	Ss/Sd	ds/dd	a	b	c	d	H	exk	lxm	ExE	g	m	h	L
	rpm	kW																
VM6	1450	11	160/8	160/8	18/18	80/80	125	70	190	370	333	450/700	450/700	500/500	295	475	225	on request
VM6a		7.5													265	399		
VM6b		5.5														361		
VM6	960	3													314			
VM6a		2.2																
VM6b		1.5																

pump type	motor		Ds/z	Dd/z	Ss/Sd	ds/dd	a	b	c	d	H	exk	lxm	ExE	g	m	h	L
	rpm	kW																
VM30	1450	18.5	210/8	210/8	18/18	125/125	190	81	230	456	450	490x840	490x790	550/550	295	539	315	on request
VM30a		15														520		
VM30b		11														479		
VM30	960	5,5														358		
VM30a		4														314		
VM30b		3																

pump type	motor		Ds/z	Dd/z	Ss/Sd	ds/dd	a	b	c	d	H	exk	lxm	ExE	g	m	h	L
	rpm	kW																
VM75	1450	110	295/8	295/8	23/23	200/200	300	242	350	650	725	710x1305	710x1200	810x810	600	820	545	on request
VM75a		90																
VM75b		75														980		
VM75	960	30																
VM75a		22																
VM75b		18.5																
VM75	750	15														635		
VM75a		11																
VM75b																		

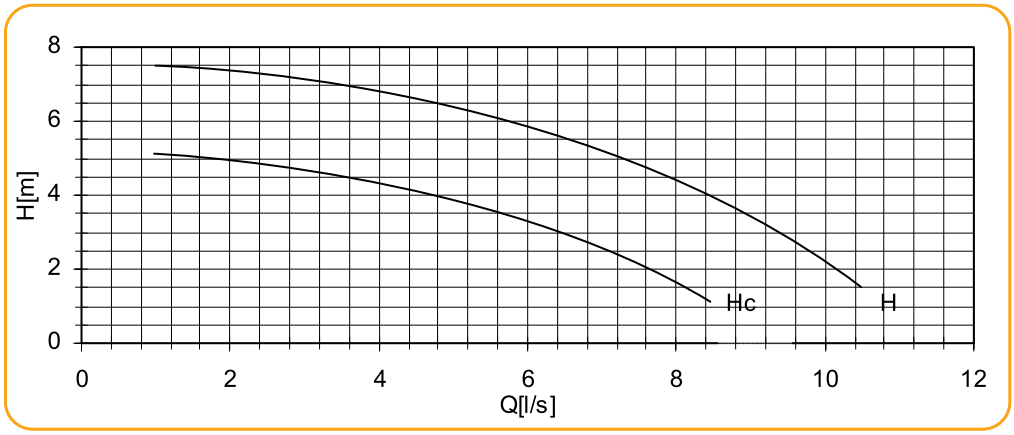
Range of performance curves



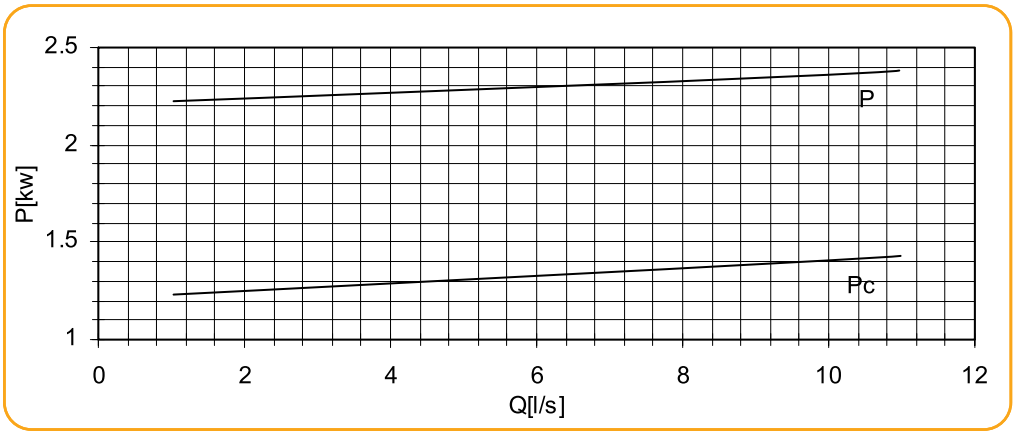
Pump performance curves

M3
n =1450 (rpm)

Total
Differential
Head



Power Input

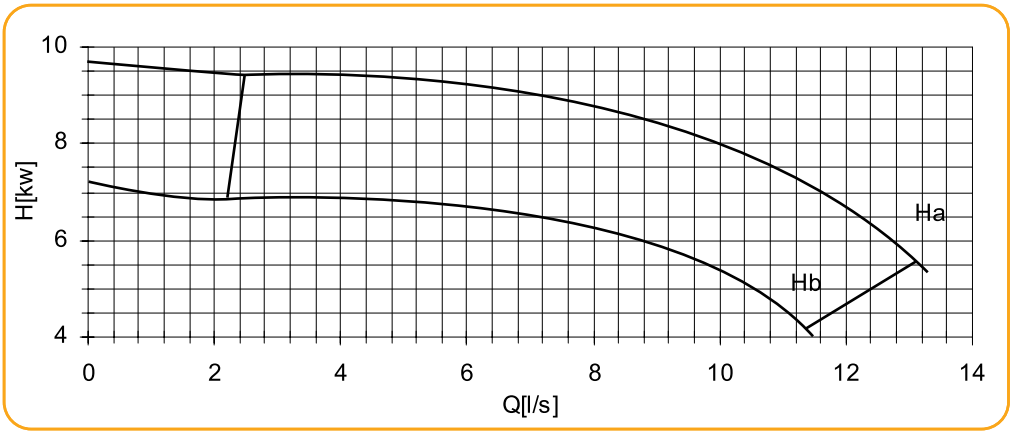


Performance curves are valid for clear water t=20 ºC, ρ=1000 kg/m³,. NPSH value is obtained in laboratory and for reason of safety shall be increased at least 0.5 m for application. Methods and tolerances of presented performance curves are in accordance with ISO 9906

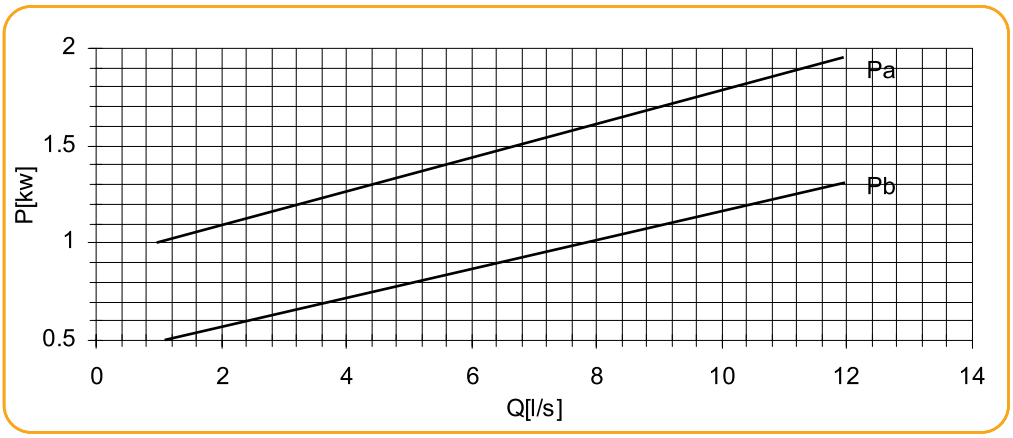
Pump performance curves

M6
n =960 (rpm)

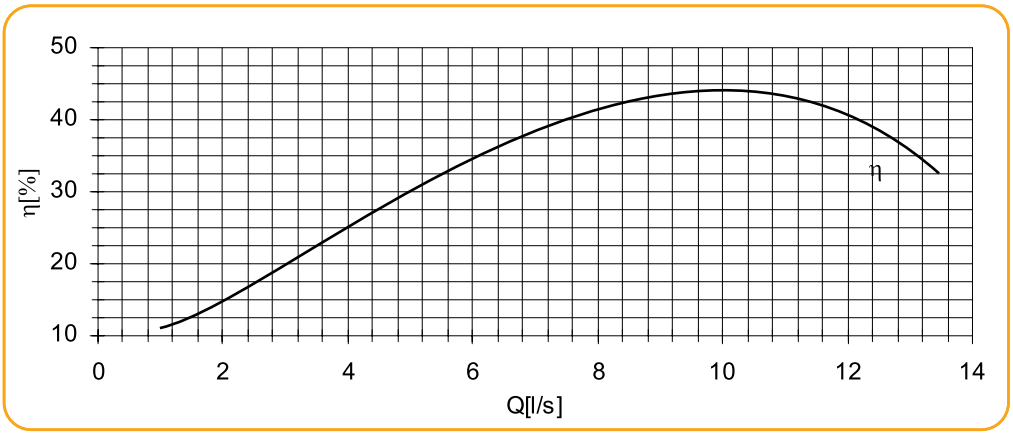
Total
Differential
Head



Power Input



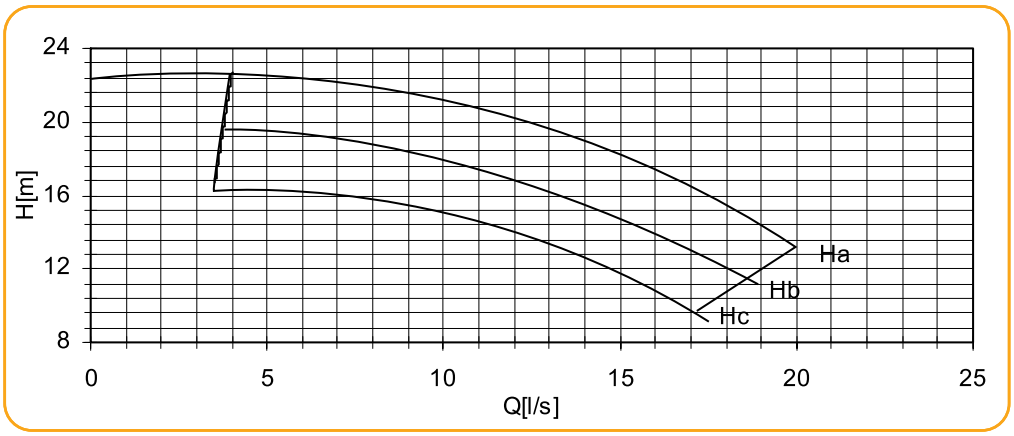
Efficiency



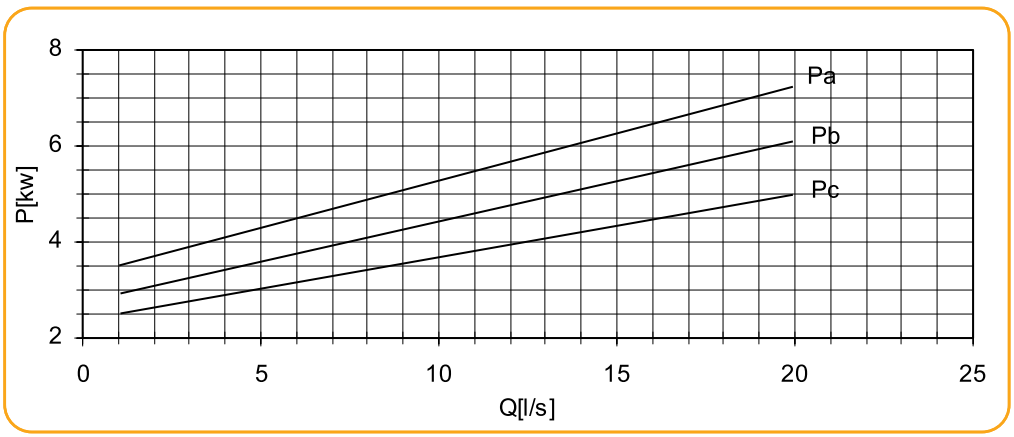
Pump performance curves

M6
n =1450 (rpm)

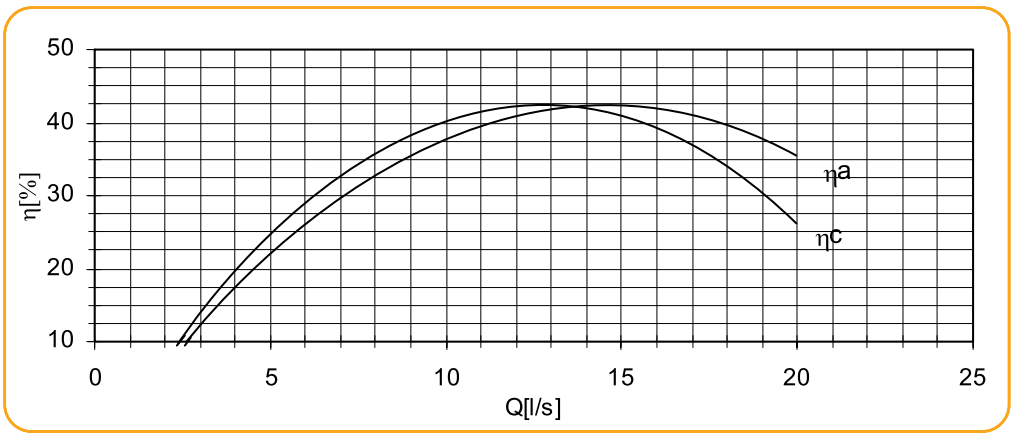
Total
Differential
Head



Power Input



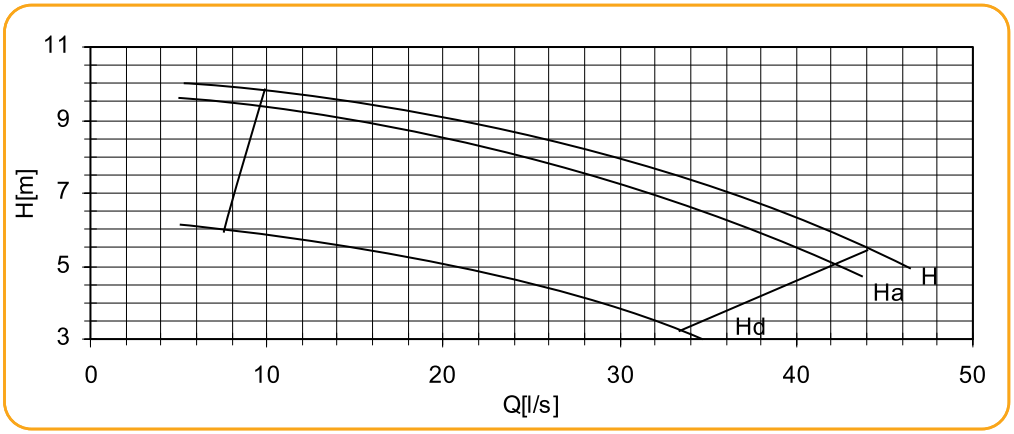
Efficiency



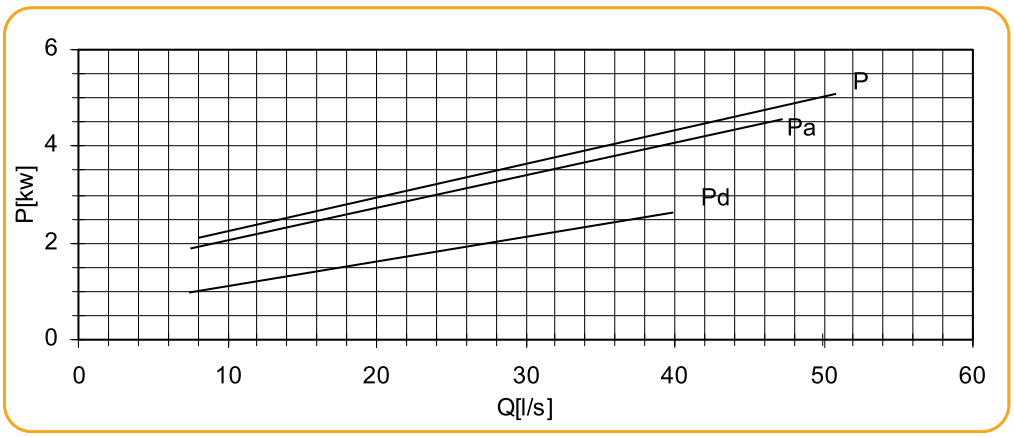
Pump performance curves

M30
n =960 (rpm)

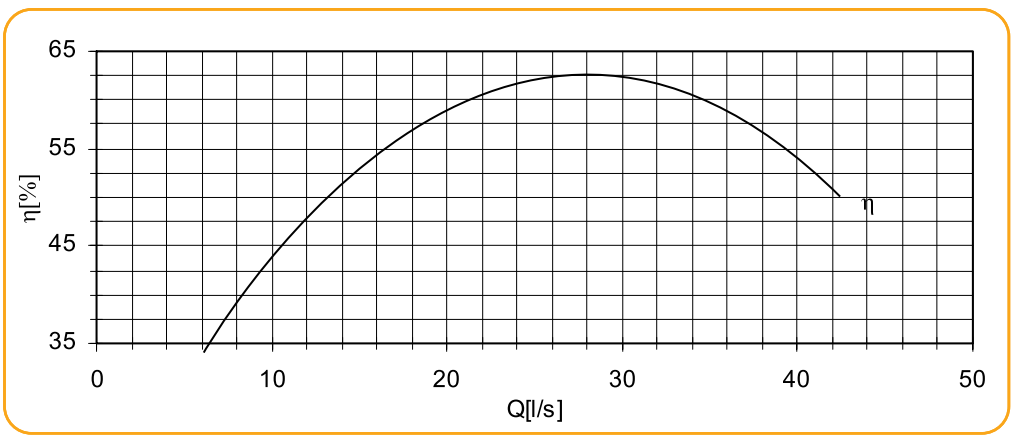
Total
Differential
Head



Power Input



Efficiency

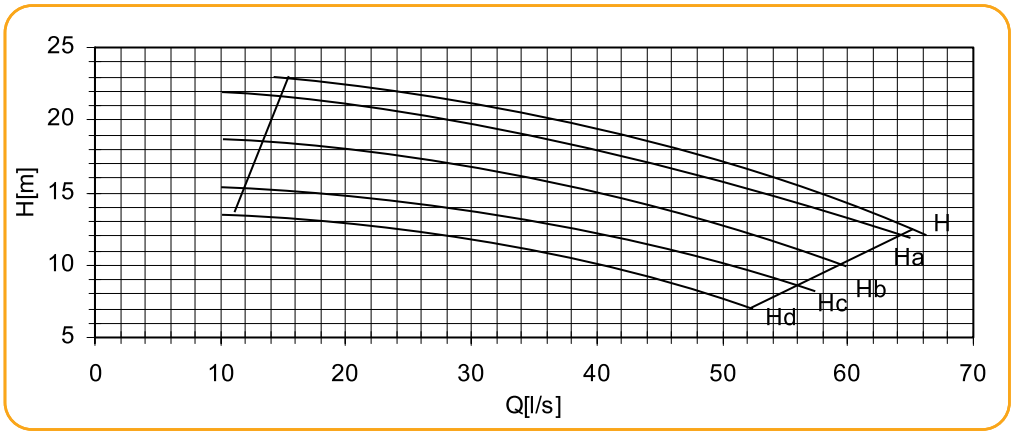


Performance curves are valid for clear water t=20 ºC, ρ=1000 kg/m³,. NPSH value is obtained in laboratory and for reason of safety shall be increased at least 0.5 m for application. Methods and tolerances of presented performance curves are in accordance with ISO 9906

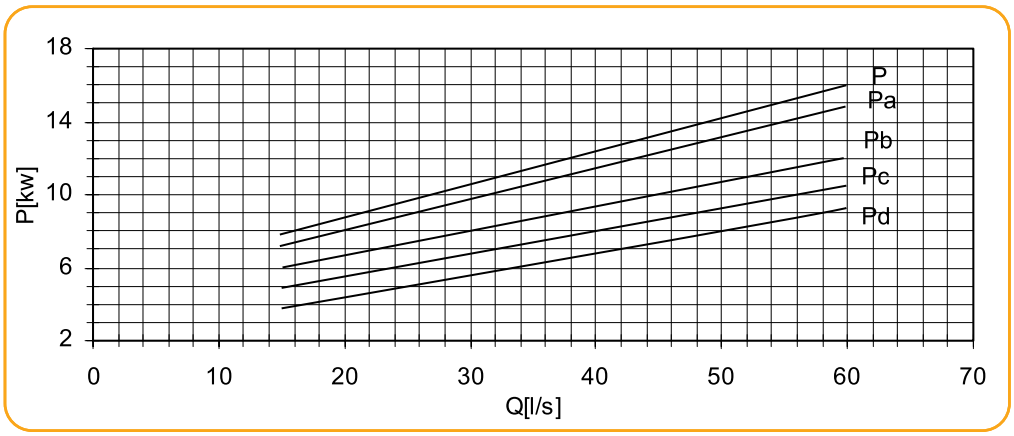
Pump performance curves

M30
n =1450 (rpm)

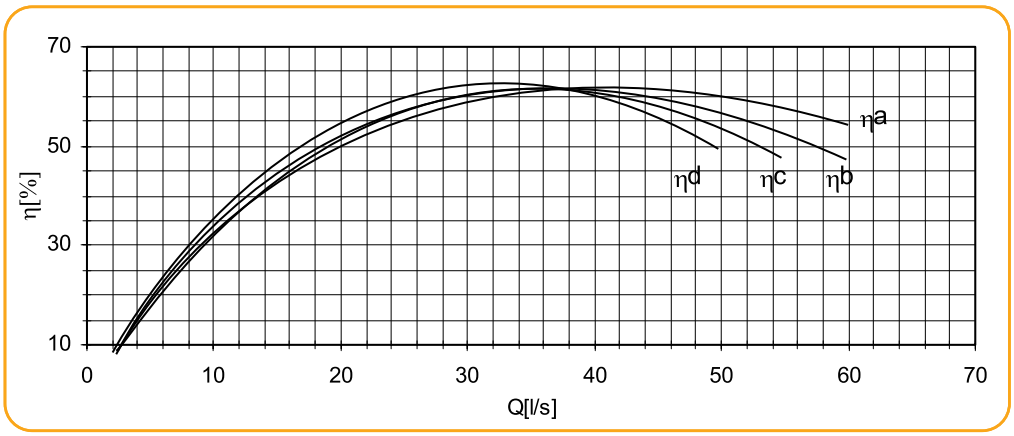
Total
Differential
Head



Power Input



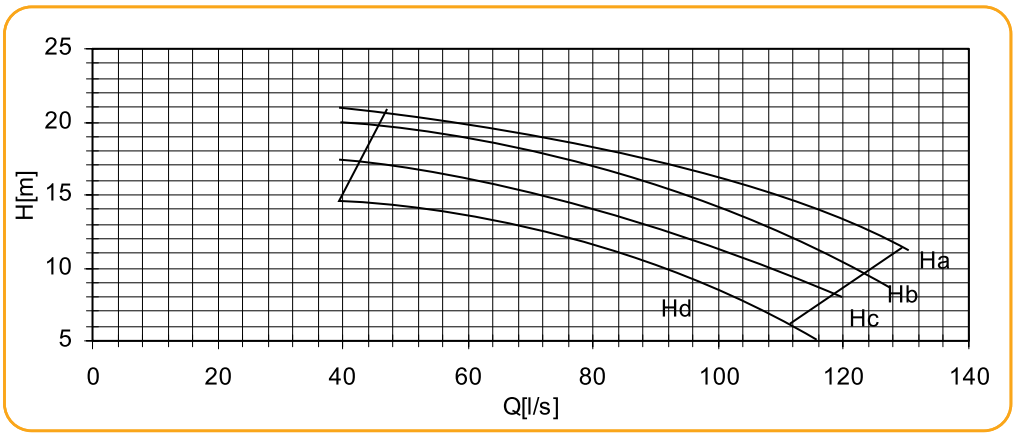
Efficiency



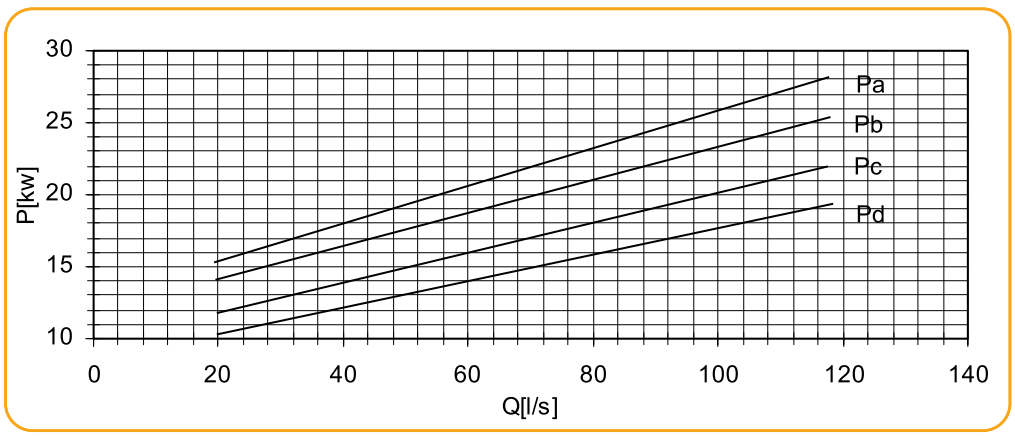
Pump performance curves

M75
n =960 (rpm)

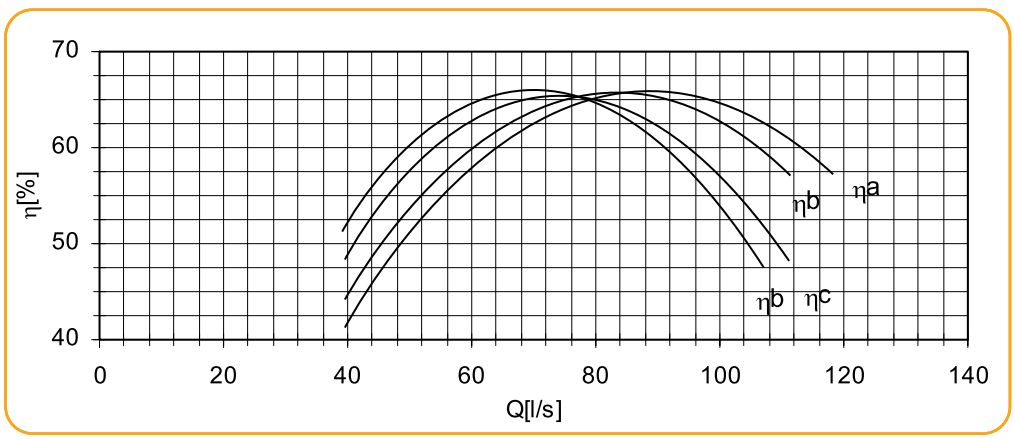
Total
Differential
Head



Power Input



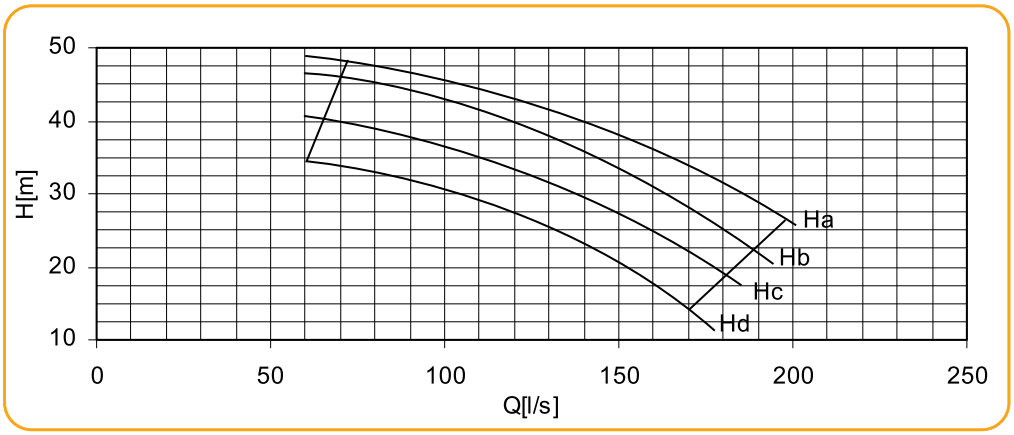
Efficiency



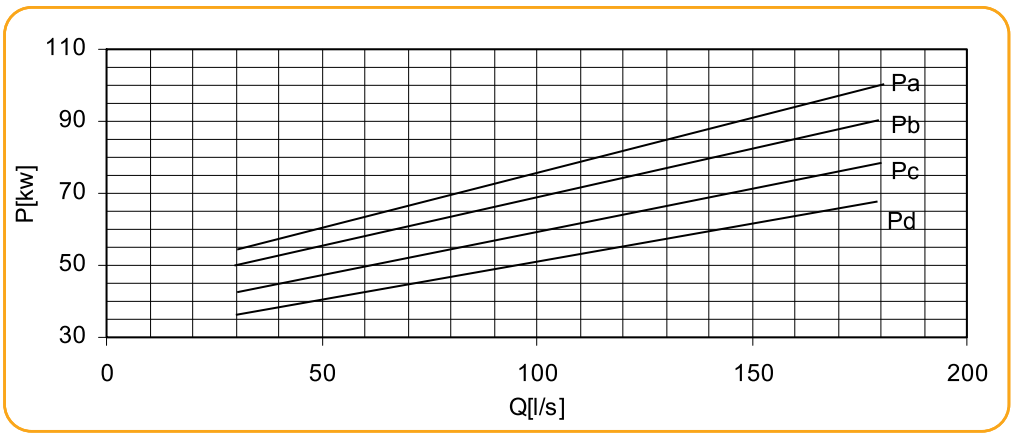
Pump performance curves

M75
n =1450 (rpm)

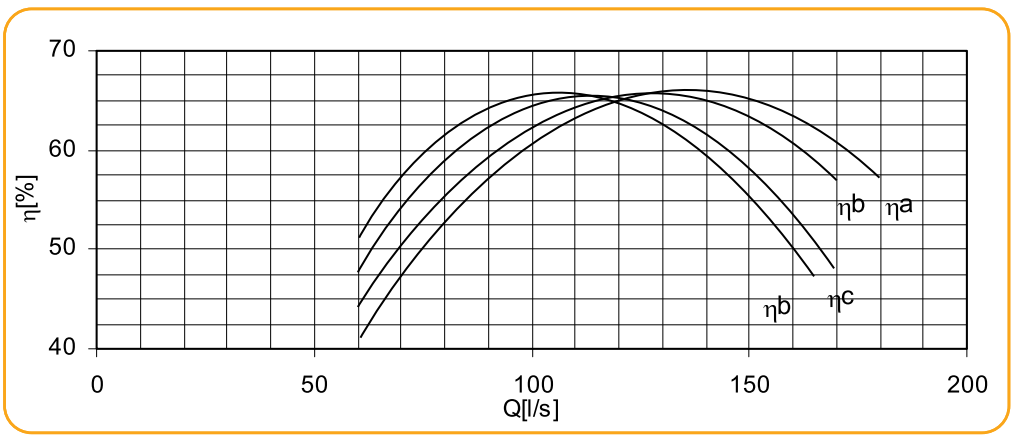
Total
Differential
Head



Power Input



Efficiency



Performance curves are valid for clear water t=20 ºC, ρ=1000 kg/m³,. NPSH value is obtained in laboratory and for reason of safety shall be increased at least 0.5 m for application. Methods and tolerances of presented performance curves are in accordance with ISO 9906

Company: _____

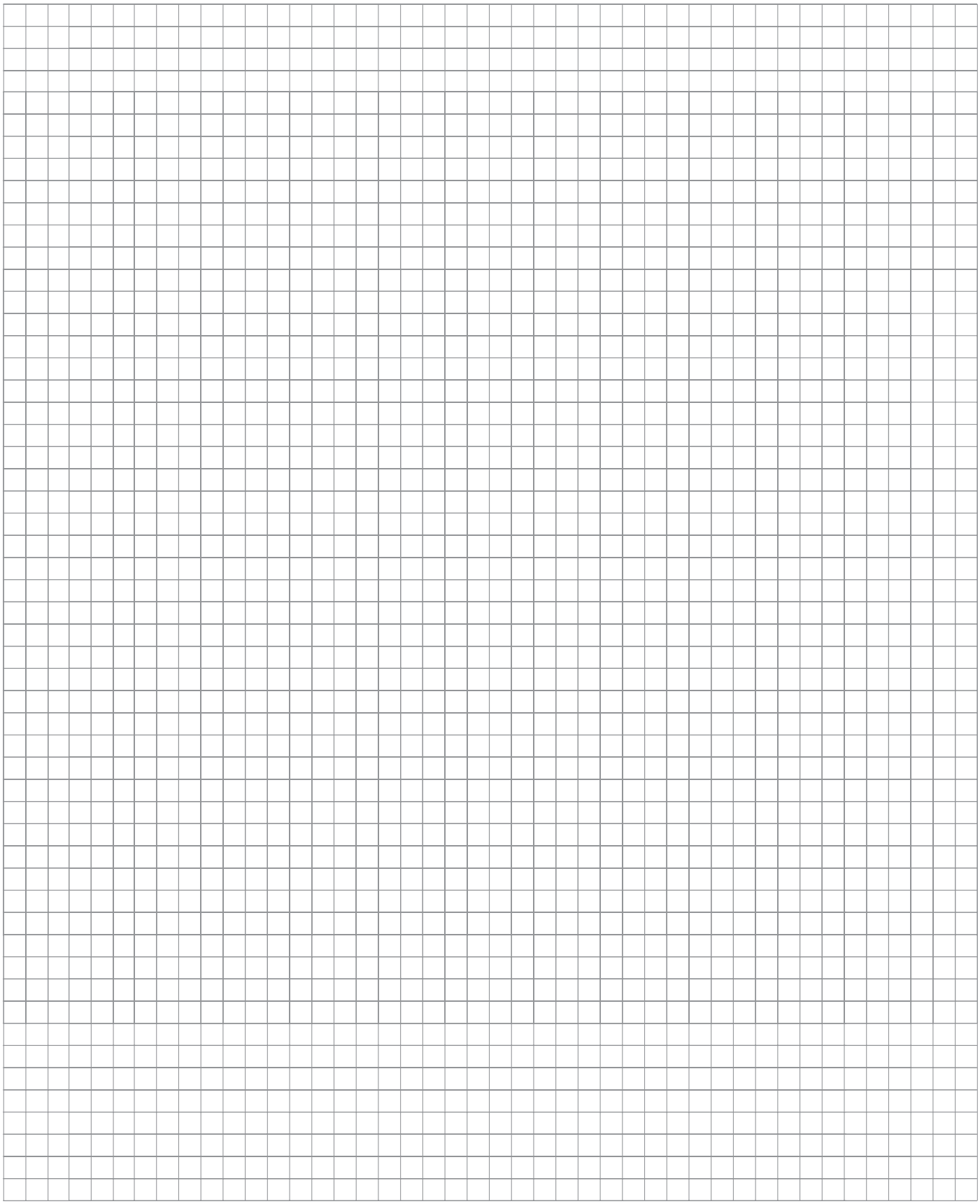
Address: _____

Contact person: _____

Tel/Fax: _____

E-mail: _____

Date: _____



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