Product description

OMK 50/ 7

Customer	Supplier
Company name	
Editor	
Phone number	
E-mail	

Fields of Application

Water supply systems.
Booster sets in high rise buildings and industry.
Water treatment.
Industrial washdown systems.
Fire extinguishing plants.
Boiler feed and condensate transfer.
Sanitary and cleaning installations.
For industrial applications and public services.
Water distribution services.
Industrial applications.
Shipbuilding, mining, power stations, filter units.
Irrigation plants.
Central heating systems.

Design Specification

The OMK Pump is a horizontal axis, radially split, ring section design multistage centrifugal pump of non-self priming type.

Impellers are between bearings, single entry, closed type and dynamically balanced. Impeller diameter will be corrected for optimal adherence to the required duty point.

The axial thrust is relieved by relieving boreholes in each impeller. The remaining thrust can be borne by large-sized bearings.

Pumps with exchangeable wear rings are available upon request.

The pump series consists of 5 sizes. OMK 32, 40, 50, 65 and 80. Stages are from 2 up to max. 14 stages.

Pump and motor are fitted on a common base plate and connected to each other via flexible coupling.

Normally, discharge part is at motor side on top, suction part is at dead end side on the right and rotation of direction is clockwise when viewed from driver.

Suction and discharge nozzles may be a choice of three 90° positions. By special request, it is possible to put the suction nozzle at the motor side. In this arrangement pump and motor rotation must be counter clockwise.

Technical Data

Suction Flanges	: DN50 - DN125 (PN25)
Discharge Flanges	: DN32 - DN80 (PN40)
Operating Pressure	: 40 bar
Flow Range	: 5 - 220 m³/h
Head Range	: 30 - 400 m
Temperature Range	: Up to 140 °C
Speed Range	: 1450 - 3600 rpm

Technical data

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Operating data specification

Pumped fluid	Water		Rated flow	56	m³/h
Solids			Rated head	270	m
Kind			Geodetic head	0	m
Percentage of solid content	0		Available system NPSH		m
pH value			Inlet pressure (pin)	0	kPa
Temperature	20	°C	Altitude above sea level	100	m
Density	998.3	kg/m³	Max. operating pressure	3280	kPa
Kin. viscosity	1.005	mm²/s	Max. diff. pressure	3280	kPa
Vapour pressure	2.34	kPa			

Pump

Make	MAS DAF		Impeller type		
Pump type	OMK 50/ 7		Impeller construction		
Frame size			Impeller Ø		
Design			Max.	190	mm
Self priming	☒ No		designed	175	mm
Speed	2975	rpm	Min.	155	mm
Stages	7		Flow		
Suction port			Nominal	53.1	m³/h
Pressure rating	PN25		Max.	65	m³/h
Nominal pipe size	DN80		Min.	0	m³/h
Standard	DIN		Head		
Discharge port			Nominal	277	m
Pressure rating	PN40		Min.	246	m
Nominal pipe size	DN50		Max.	335	m
Standard	DIN		Shut off head	335	m
Shaft power	58.6	kW	NPSH3	3.74	m
Shaft power P2(Q=max.)	63.8	kW	Efficiency	70.2	%

Motor

Make/Type	75 KW-2900 RPM / 280S	
Specific design	IE3 / 50 Hz / Pole pairs 1	
Rated power	75	kW
Electric voltage	3~ 400	V
Speed	2980	rpm
Electric current	127	A
Frame size	280S	
Degree of protection	IP 55	
Type of protection		
Explosion protection		

Coupling

Make/Type		
Series		
Spacer length		mm
Frame size		

Materials

Pump		Shaft seal	Soft Packing
Pump Casing	GJL-250 (GG25)	Material code	
Impeller	GJL-250 (GG25)		
Shaft	A 276 Type 420 (X20Cr13)		
Bearing Housing	GJL-250 (GG25)		

Performance curves

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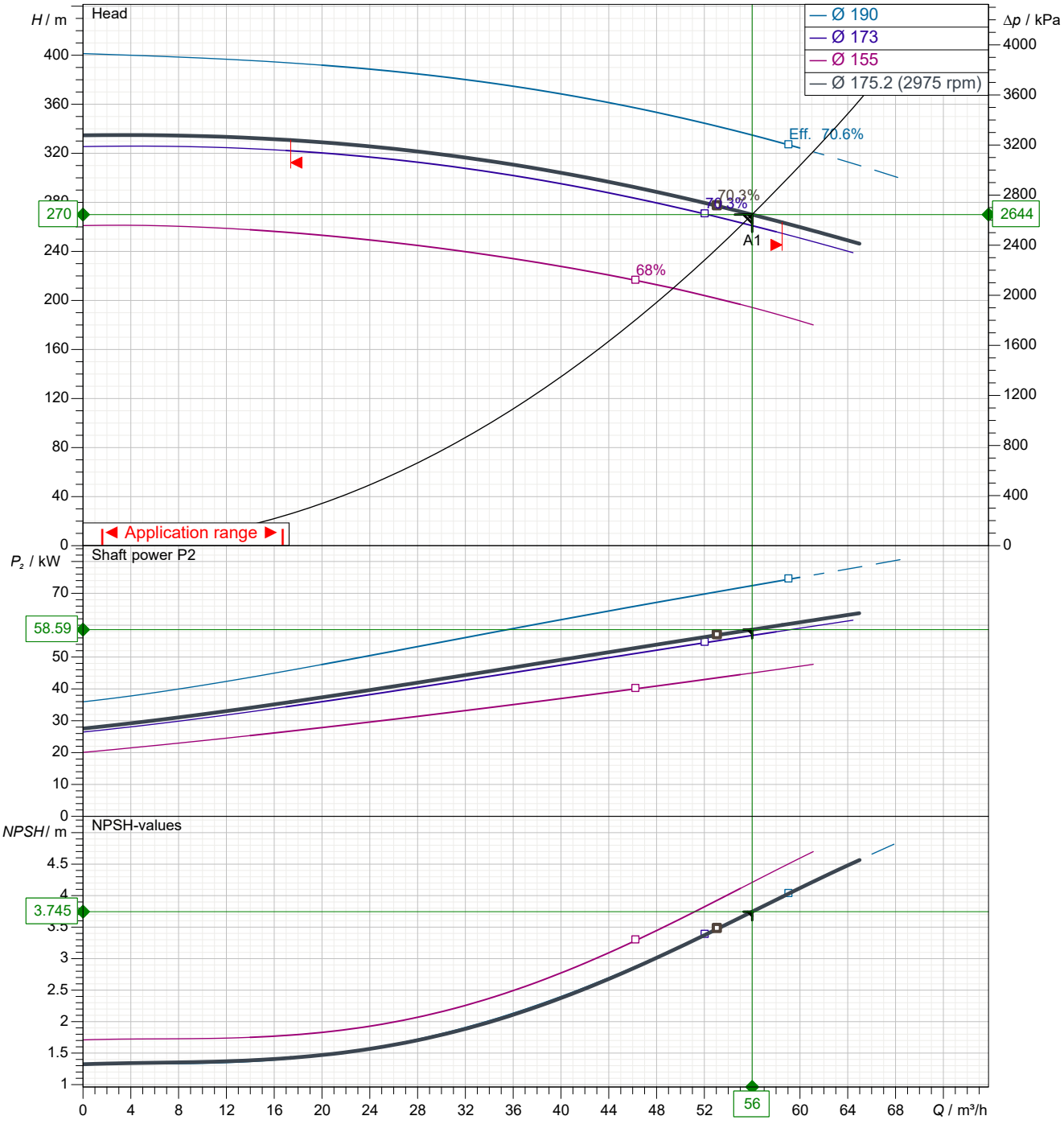
Power data referred to: Water; 20°C; 998.3kg/m³; 1.005mm²/s

Sense of rotation Clockwise from the drive end



Pump curves in accordance with ISO 9906 2B

Pumped fluid	Water		Rated flow	56	m³/h
Temperature	20	°C	Rated head	270	m
Density	998.3	kg/m³	Shaft power	58.6	kW
Kin. viscosity	1.005	mm²/s	Speed	2975	rpm
Vapour pressure	2.34	kPa	NPSH3	3.74	m
Impeller Ø	175	mm	Efficiency	70.2	%

Brief description of pump

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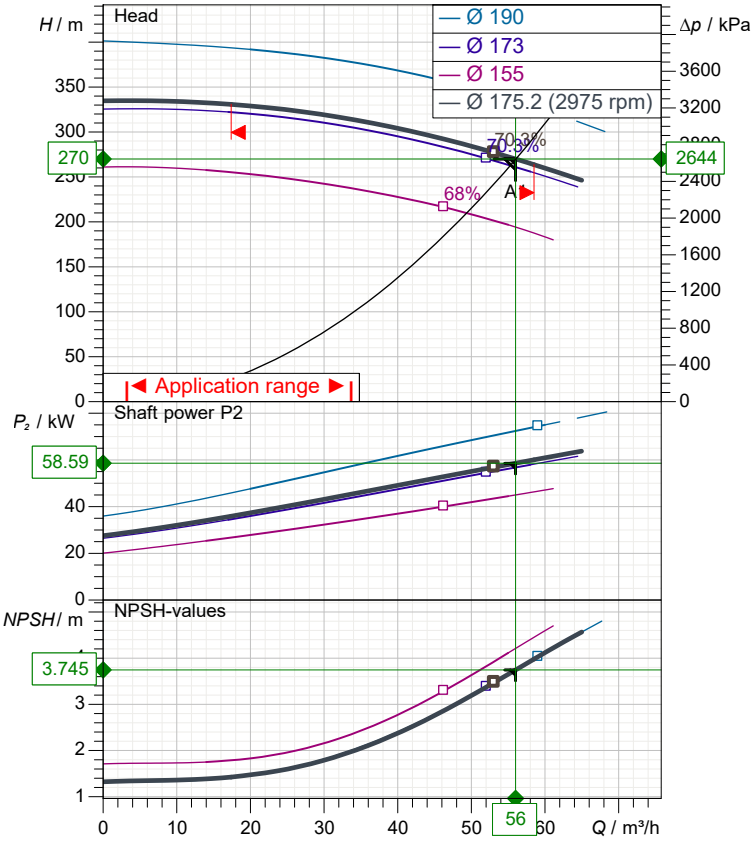
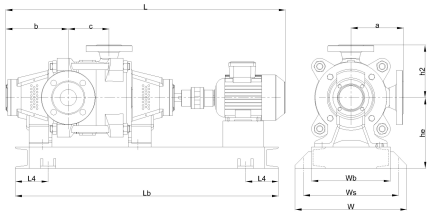
Performance curves



Pump curves in accordance with ISO 9906 2B



Pump

Make	MAS DAF
Pump type	OMK 50/ 7
Design	
Suction port	
Pressure rating	PN25
Nominal pipe size	DN80
Standard	DIN
Discharge port	
Pressure rating	PN40
Nominal pipe size	DN50
Standard	DIN

Operating data specification

Pumped fluid	Water	
Temperature	20	°C
Density	998.3	kg/m³
Kin. viscosity	1.005	mm²/s
Vapour pressure	2.34	kPa
Rated flow	56	m³/h
Rated head	270	m
Shaft power	58.6	kW
Speed	2975	rpm
NPSH3	3.74	m
Efficiency	70.2	%
Impeller Ø	175	mm

Motor

Make/Type	75 KW-2900 RPM / 280S	
Specific design	IE3 / 50 Hz / Pole pairs 1	
Rated power	75	kW
Speed	2980	rpm
Electric voltage	3~ 400	V
Electric current	127	A
Degree of protection	IP 55	

Materials

Shaft seal	Soft Packing
Material code	

Dimensions	mm
a	210
b	223
c	578
h2	210
he	420
L	2116
L4	300
Lb	2000
w	720
wb	600
ws	660

Pump Casing	GJL-250 (GG25)
Impeller	GJL-250 (GG25)
Shaft	A 276 Type 420 (X20Cr13)
Bearing Housing	GJL-250 (GG25)

Pump dimensions

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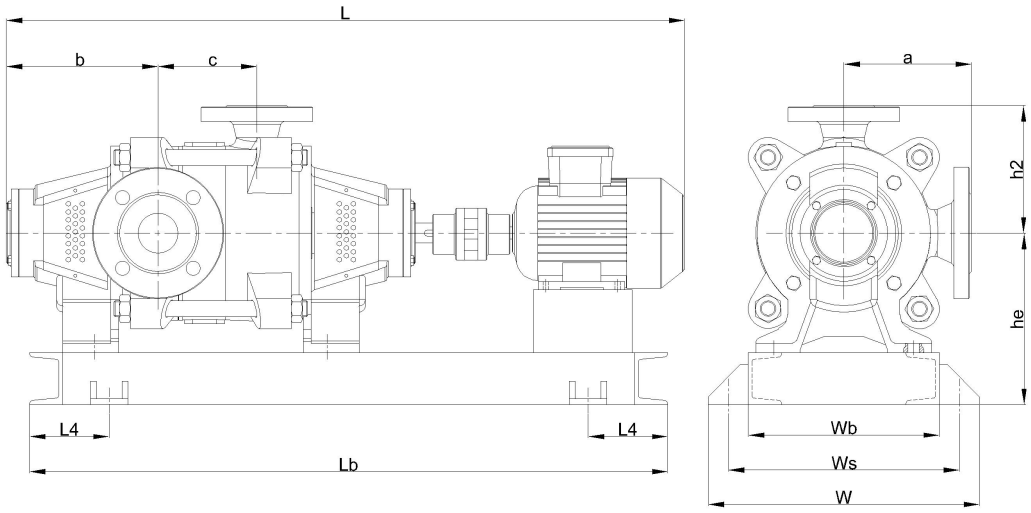

Dimensions	mm
a	210
b	223
c	578
h2	210
he	420
L	2116
L4	300
Lb	2000
w	720
wb	600
ws	660

Inlet / outlet

Suction port	Discharge port
DN80	DN50
PN25	PN40

Motor performance curve

75 KW-2900 RPM / 280S

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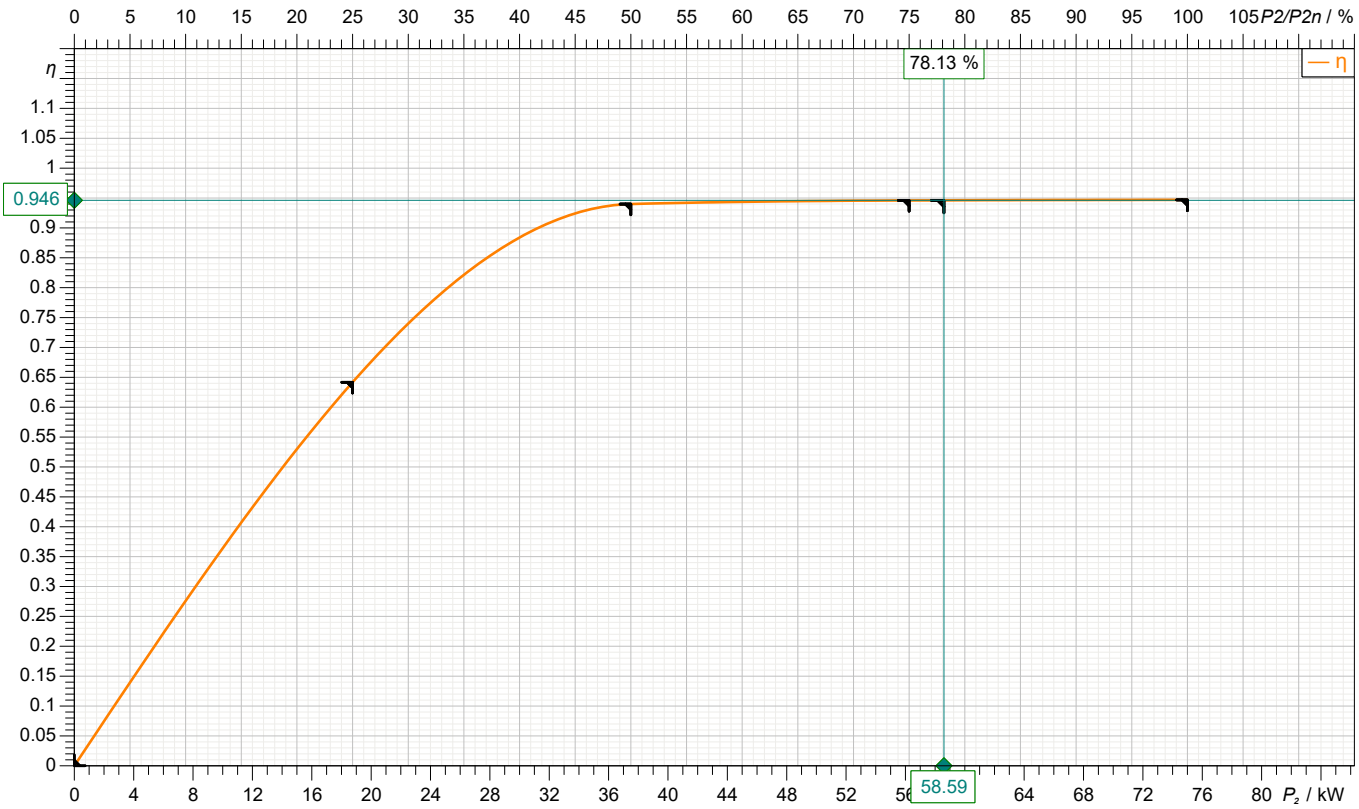
motor data



Symbol	No load	25 %	50 %	75 %	100 %	125 %
P_2 / kW	0	18.75	37.5	56.25	75	
P_1 / kW		29.21	39.89	59.46	79.2	
η / %	0	64.18	94	94.6	94.7	

Motor

Make/Type	75 KW-2900 RPM / 280S	Degree of protection	IP 55
Specific design	IE3 / 50 Hz / Pole pairs 1	Type of protection	
Rated power	75 kW	Explosion protection	
Electric voltage	3~ 400 V	Service factor	1.15
Number of poles	2	Starting current	
Speed	2980 rpm	Starting torque	
Electric current	127 A	Moment of inertia	
Power factor	0.9	No. starts per hour	
Frame size	280S	Rated torque	240 Nm
Efficiency class	IE3	Insulation class	F (155C°)

Motor dimensions

75 KW-2900 RPM / 280S

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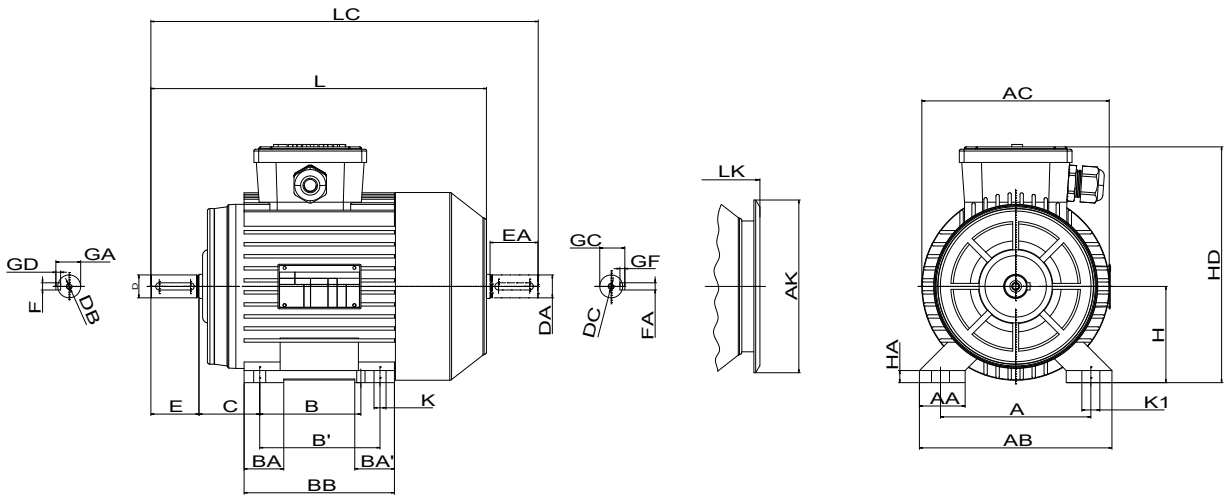

Dimensions	mm		
A	457	E	140
AA	120	EA	140
AB	550	FAxGF	20X12
AC	544	FxGD	20X12
AK	440	GA	79.5
B	368	GC	79.5
B'	–	H	280
BA	85	HA	40
BA'	128	HD	630
BB	474	K	24
C	190	L	958
D	75	LC	1106
DA	75	LK	1014
DB	M20		
DC	M20		

Flange connections

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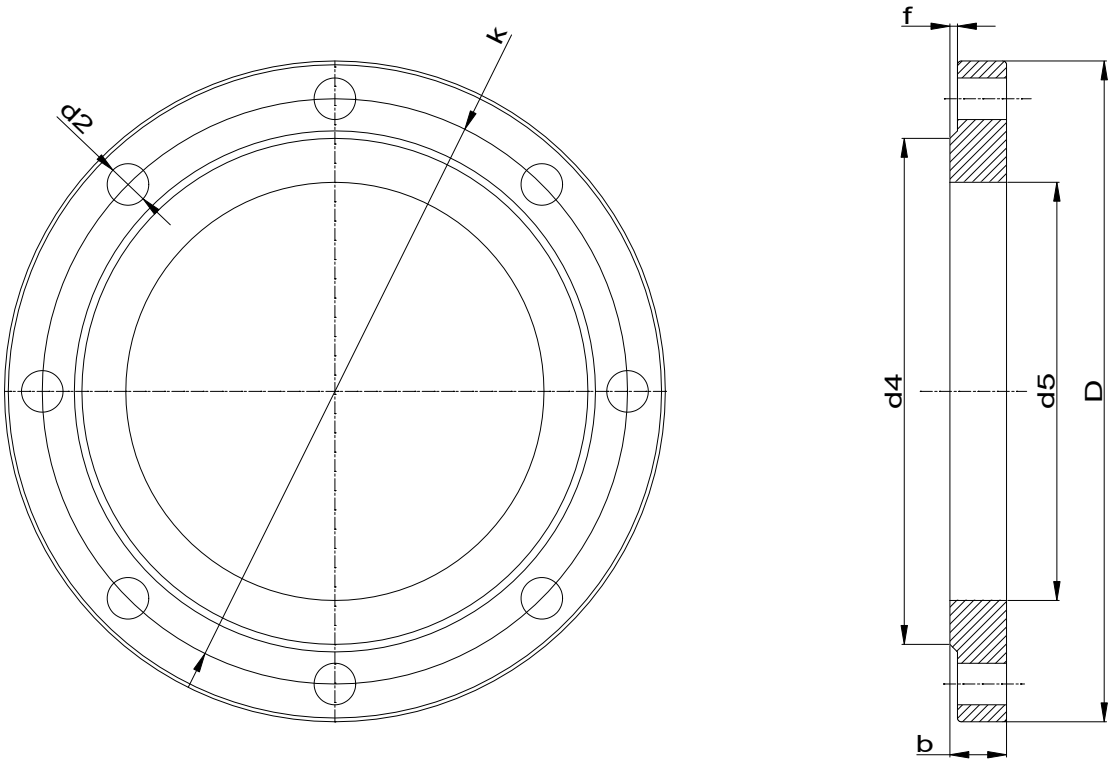

Suction connection
DN80
PN25

Discharge connection
DN50
PN40

Dimensions	mm
b	24
D	200
d2	18
d4	138
d5	90.5
DN	80
f	2
k	160
n	8

Dimensions	mm
b	20
D	165
d2	18
d4	102
d5	61.5
DN	50
f	2
k	125
n	4

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