SYROC

Centrifugal process pumps

One range for water, wastewater and process liquids: end-suction, close-coupled, in-line, split case and multistage pumps.

At a glance

Up to 6000 m³/h
flow (double-suction split case)

Up to 550 m
head (multistage)

−10 to 175 °C
liquid temperature, depending on series

Multiple materials
cast iron, bronze, AISI 316, duplex

Packing or seal
gland packing or mechanical seal



Supplied by Vaikon

Vaikon selects the right Syroc pump for your duty point and supplies it as bare-shaft pump or as a complete unit with motor.

Contents

The complete Syroc range, followed by the technical data of the Syroc SHP and Syroc SPP series.



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The Syroc range

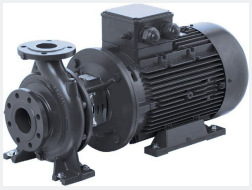
Maximum values per pump type. The right size depends on your duty point; Vaikon makes the selection for you.



End-suction process pumps (EN 733)

Bare-shaft pump on baseplate. 24 basic sizes.

FLOW	HEAD
600 m³/h	**100 m**
TEMP.	PRESSURE
−10 to 140 °C	**10 (16) bar**



Close-coupled pumps

Compact pump and motor unit with EN 733 volute dimensions, horizontal or vertical.

FLOW	HEAD
600 m³/h	**100 m**
TEMP.	PRESSURE
−10 to 140 °C	**10 (16) bar**



In-line pumps

Suction and discharge on one axis, mounted directly in the pipeline.

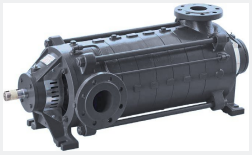
FLOW	HEAD
350 m³/h	**100 m**
TEMP.	PRESSURE
−10 to 140 °C	**10 (16) bar**



Wastewater and process pumps

Wide volute for liquids with solids; horizontal or vertical. 18 basic sizes.

FLOW	HEAD
1600 m³/h	**95 m**
TEMP.	PRESSURE
−10 to 110 °C	**10 (16) bar**



Multistage pumps

Ring-section design with closed impellers and diffusers for high heads.

FLOW	HEAD
1000 m³/h	**550 m**
TEMP.	PRESSURE
10 to 140 °C	**30 (63) bar**



Heavy-duty process pumps (ISO 2858)

Closed or semi-open impeller, dry shaft. 28 basic sizes.

FLOW	HEAD
1500 m³/h	**160 m**
TEMP.	PRESSURE
−10 to 175 °C	**16 (25) bar**



Double-suction split case pumps

Axially split casing for large flows, horizontal or vertical.

FLOW	HEAD
6000 m³/h	**180 m**
TEMP.	PRESSURE
−10 to 110 °C	**16–25 bar**

Built to your process

Materials

Cast iron GG25
standard material

Bronze GCuSn10
casing and impeller

Stainless steel AISI 316
casing and impeller

Duplex 1.4517
casing and impeller

Sealing

Gland packing
standard on many sizes; stuffing box cooling available on the multistage series

Mechanical seal
single seal; double and cartridge seals on the split case series

Configuration

Bare-shaft pump
for your own drive and baseplate

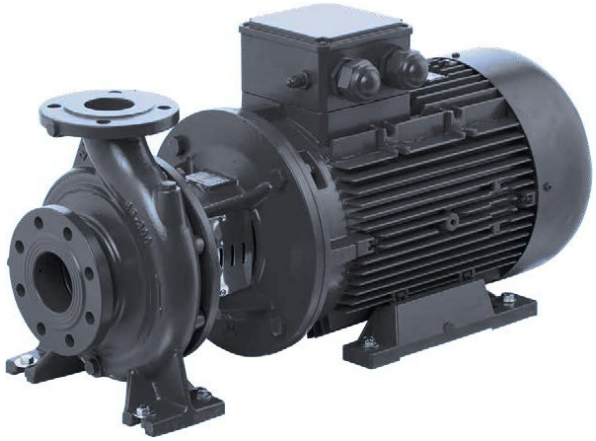
Complete unit
pump, coupling and motor on a baseplate, ready to install

Standards

EN 733 / ISO 2858
hydraulic dimensions of the end-suction series

EN 1092-2 PN 16
flanges on most series

Typical liquids
Water, wastewater and process liquids. Tell us your liquid, flow and head; we select the pump and the materials.



Syroc® SHP

End-suction pumps to EN 733

Single-stage, back-pull-out end-suction pumps for clean or slightly contaminated, low-viscosity liquids. DN 32 to DN 250.

At a glance

Up to 1200 m³/h
flow

Up to 160 m
head

−10 to 140 °C
design temperature, depending on material

10 (16) bar
casing pressure

46 sizes
29 EN 733 basic sizes + 17 additional sizes



Supplied by Vaikon

Vaikon selects the right Syroc SHP pump for your duty point and supplies it as bare-shaft pump or as a complete unit with motor.

VAIKON

Syroc SHP technical data

Performance, design and designation of the Syroc SHP series.

Technical data

Discharge flange
DN 32 … DN 250

Capacity
up to 1200 m³/h [1]

Head
up to 160 m [1]

Speed
up to 3600 rpm [1]

Design temperature
–10 to +140 °C [2]

Casing pressure (Pmax)
10 bar (16 bar) [2]

Pmax = suction pressure + shut-off head. [1] Contact Vaikon for higher capacity and head values. [2] The pump material depends on the pumped liquid, operating temperature and pressure; contact Vaikon for details.

Handled liquids

Clean or slightly contaminated, low-viscosity liquids without solid and fibrous particles.

Shaft sealing

- Soft-packed stuffing box in standard production.
- Mechanical seals available on request; the pump shaft is then always stainless steel.

Pump designation

SHP125x100-315.D328.SS.BS.CI.II.KH.D000-BUCD09.1450

Series · suction x discharge DN · frame size · impeller Ø · sealing · bearing · casing, impeller and shaft material · discharge position · mounting method + motor power · speed. The full key is on page 3.

Design features

- Horizontal, radially split volute casing; single-stage end-suction centrifugal pump with closed impeller.
- Dimensionally complies with EN 733; complies with EU 547/2012.
- Besides the 29 EN 733 basic sizes there are 17 additional sizes; their dimensions may differ from other suppliers.
- Suction and discharge flanges to EN 1092-2 / PN 16; ANSI/ASME flanges on request.
- Back-pull-out design: the bearing assembly, impeller and casing cover can be removed without taking the volute casing out of the piping. With a spacer coupling, the rotor can be removed without dismantling the motor.
- All impellers balanced dynamically or statically to ISO 1940 grade 6.3.
- Axial thrust balanced by balancing holes in the impeller.
- Direction of rotation: clockwise, viewed from the drive end.
- Wear ring and/or shaft sleeve on request.
- Maintenance-free, lifetime grease-lubricated ball bearings as standard; oil lubrication or re-greasable bearings on request. Pumps with a 65 mm shaft end have oil-lubricated bearings.
- Sizes 40-315, 50-315, 65-315, 80-315, 100-315 and 125-250 are supplied at 3000 rpm for fire-fighting applications only.

Pump designation

How a Syroc SHP type code is built up, position by position.



#	Position	Example	Codes
1	**Pump series**	SHP	**SHP** Syroc horizontal process pump (S Syroc · H horizontal · P process)
2	**Suction size**	125	nominal diameter of the suction flange (DN)
3	**Discharge size**	100	nominal diameter of the discharge flange (DN)
4	**Frame size**	315	hydraulic size = nominal impeller diameter: 125 · 160 · 200 · 250 · 315 · 400 · 500
5	**Impeller diameter**	D328	D + actual (trimmed) impeller diameter in mm, e.g. D328 = 328 mm
6	**Sealing type**	SS	**SS** single mechanical seal · **SA** gland packing
7	**Bearing type**	BS	**BS** standard bearing
8	**Casing material**	CI	**CI** cast iron · **CS** stainless steel 316 · **CM** stainless steel 304 · **CD** duplex stainless steel
9	**Impeller material**	II	**II** cast iron · **IS** stainless steel 316 · **IM** stainless steel 304 · **ID** duplex stainless steel
10	**Shaft material**	KH	**KH** AISI 420 stainless steel · **KS** stainless steel 316 · **KD** duplex stainless steel
11	**Discharge position**	D000	**D000** 0° · **D090** 90° · **D180** 180° · **D270** 270°
12	**Mounting method**	BUCD	**BUCD** direct drive · **BUCDL** direct drive, left-hand rotating · empty = bare-shaft pump
13	**Installed motor power**	09	motor power code, see the table below · **00** = motor provided by the customer
14	**Pump speed**	1450	speed in rpm, e.g. 1450 · 2900 · 0990

Motor power codes (position 13)

00 by customer	**075** 0.75 kW	**01** 1.5 kW	**02** 2.2 kW	**03** 3 kW	**04** 4 kW	**05** 5.5 kW	**06** 7.5 kW	**07** 11 kW	**08** 15 kW
09 18.5 kW	**10** 22 kW	**11** 30 kW	**12** 37 kW	**13** 45 kW	**14** 55 kW	**15** 75 kW	**16** 90 kW	**17** 110 kW	**18** 132 kW
19 160 kW	**20** 200 kW	**21** 250 kW	**22** 315 kW	**23** 355 kW	**24** 400 kW	**25** 450 kW	**26** 500 kW	**27** 800 kW	

Examples

Complete unit with motor

SHP125x100-315.D328.SS.BS.CI.II.KH.D000-BUCD09.1450

Pump with 18.5 kW motor, direct drive, 1450 rpm.

Bare-shaft pump

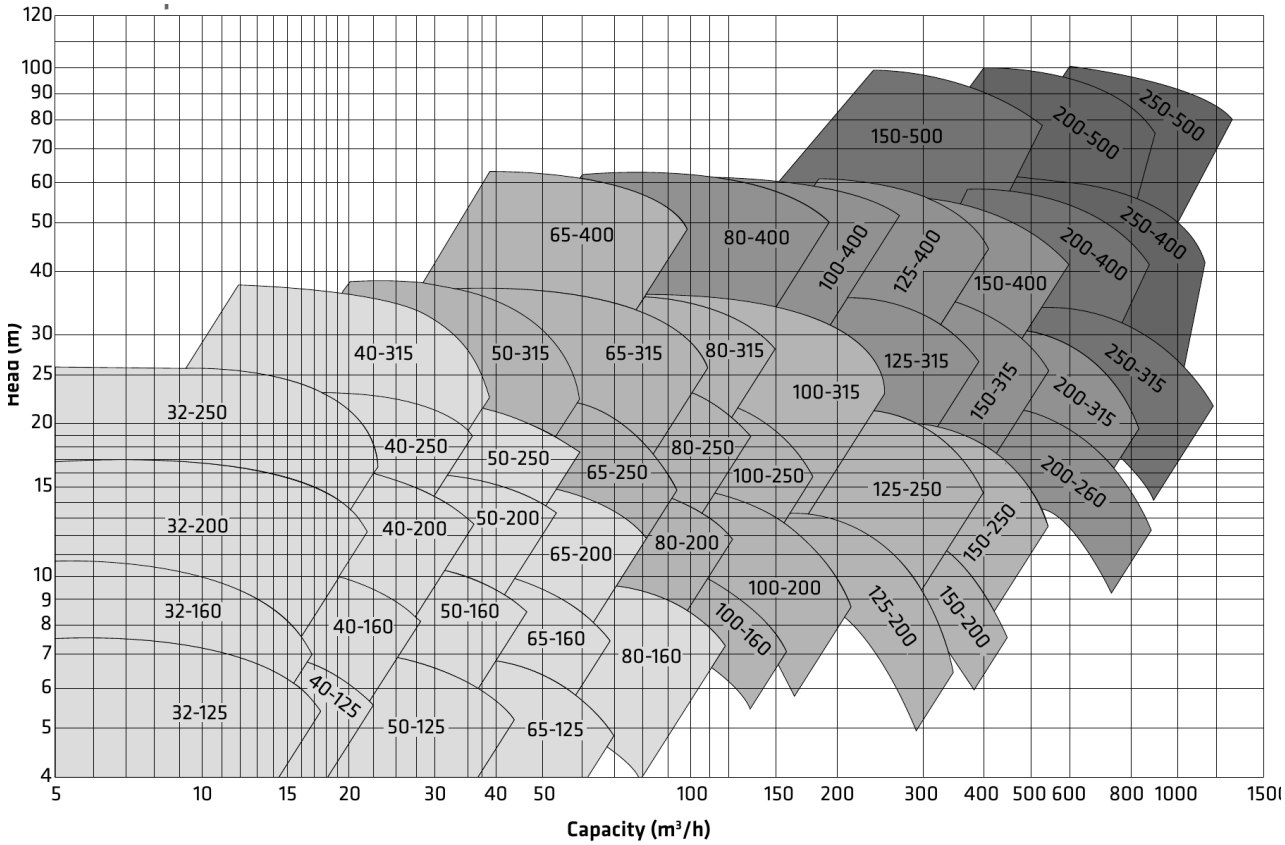
SHP125x100-315.D328.SS.BS.CI.II.KH.D000

Positions 12 to 14 stay empty: no mounting method, motor or speed.

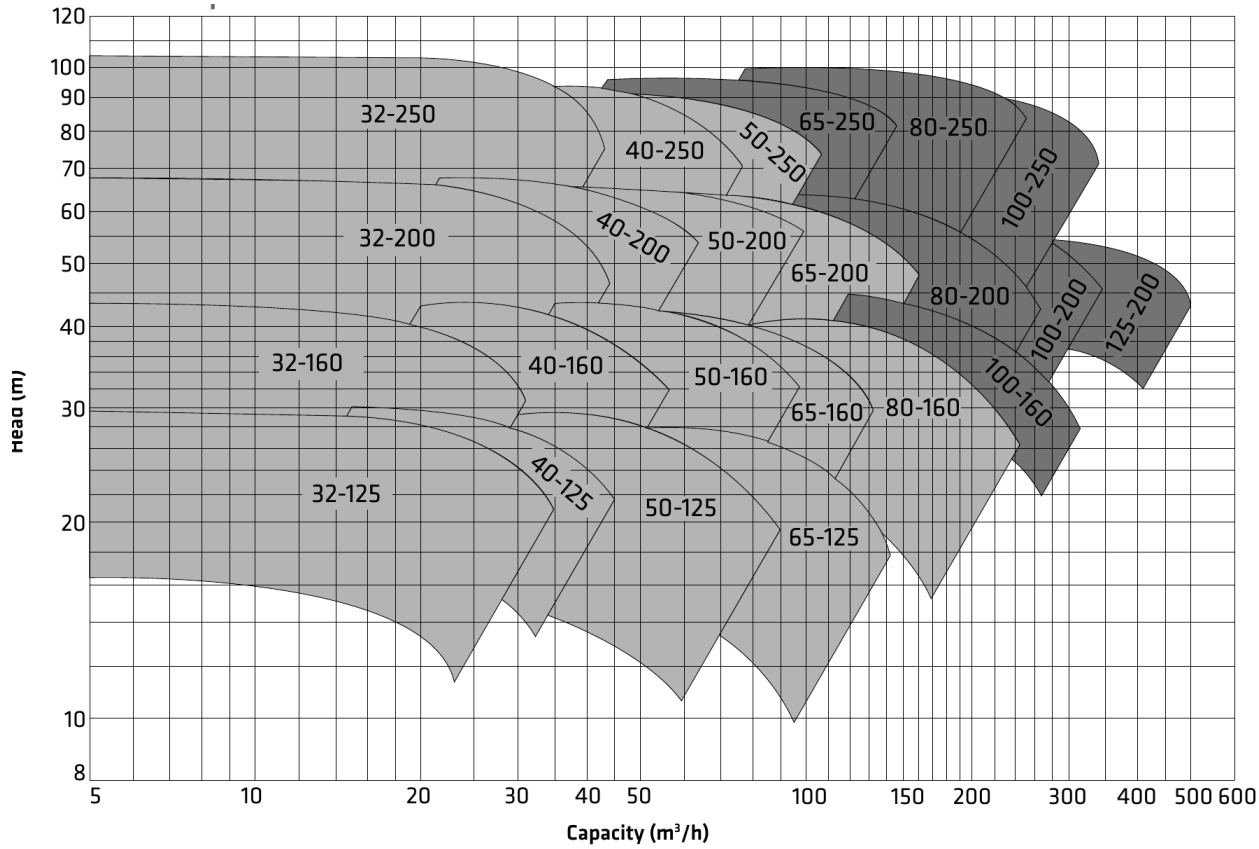
Performance range

Syroc SHP field chart · head (m) against capacity (m³/h).

1450 rpm

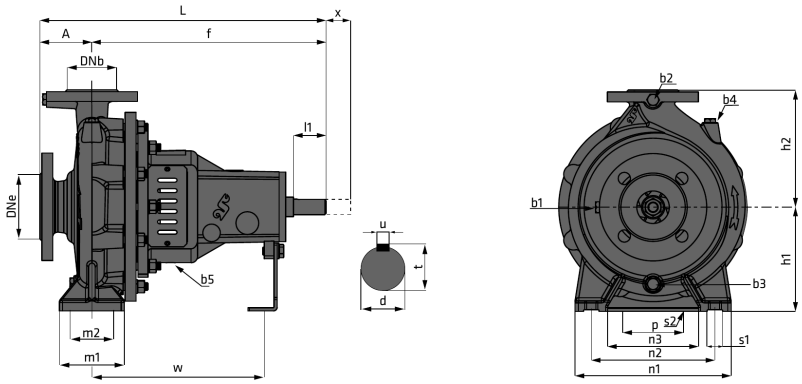


2900 rpm



Dimensions

Sizes DN 32 to DN 250 · all dimensions in mm.

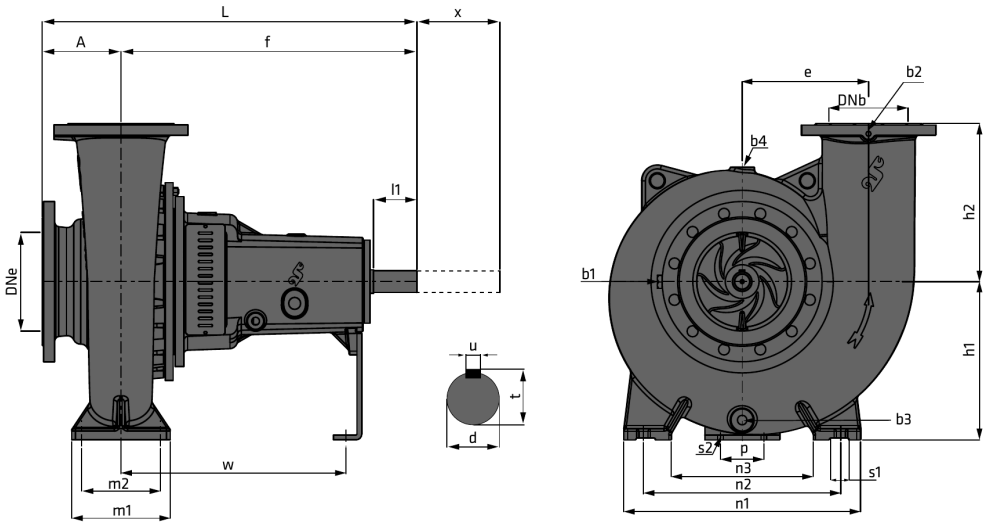


Pump type		Form	Overall dimensions							Foot dimensions									Shaft end				Support connections					Weight	Space
EN 733	Other		DNe	DNb	A	f	L	h1	h2	m1	m2	n1	n2	n3	s1	p	s2	w	d	l1	t	u	b1	b2	b3	b4	b5	kg	x*
32-125		F1	50	32	80	360	440	112	140	100	70	190	140	90	14	110	14	260	24	50	27	8	¼"	¼"	¼"	¼"	⅜"	30	100
32-160		F1	50	32	80	360	440	132	160	100	70	240	190	140	14	110	14	260	24	50	27	8	¼"	¼"	¼"	¼"	⅜"	33	100
32-200		F2	50	32	80	360	440	160	180	100	70	240	190	140	14	110	14	260	24	50	27	8	¼"	¼"	¼"	¼"	⅜"	42	100
	32-250	F2	50	32	100	360	460	180	225	125	95	320	250	190	14	110	14	260	24	50	27	8	¼"	¼"	¼"	¼"	⅜"	50	100
40-125		F1	65	40	80	360	440	112	140	100	70	210	160	110	14	110	14	260	24	50	27	8	¼"	¼"	¼"	¼"	⅜"	33	100
40-160		F1	65	40	80	360	440	132	160	100	70	240	190	140	14	110	14	260	24	50	27	8	¼"	¼"	¼"	¼"	⅜"	35	100
40-200		F2	65	40	100	360	460	160	180	100	70	265	212	165	14	110	14	260	24	50	27	8	¼"	¼"	¼"	¼"	⅜"	43	100
40-250		F2	65	40	100	360	460	180	225	125	95	320	250	190	14	110	14	260	24	50	27	8	¼"	¼"	¼"	¼"	⅜"	52	100
	40-315	F2	65	40	100	360	460	200	250	125	95	345	280	190	14	110	14	260	24	50	27	8	¼"	¼"	¼"	¼"	⅜"	64	100
50-125		F1	65	50	100	360	460	132	160	100	70	240	190	140	14	110	14	260	24	50	27	8	¼"	¼"	¼"	¼"	⅜"	36	100
50-160		F1	65	50	100	360	460	160	180	100	70	265	212	165	14	110	14	260	24	50	27	8	¼"	¼"	¼"	¼"	⅜"	37	100
50-200		F2	65	50	100	360	460	160	200	100	70	265	212	165	14	110	14	260	24	50	27	8	¼"	¼"	¼"	¼"	⅜"	46	100
50-250		F2	65	50	100	360	460	180	225	125	95	320	250	190	14	110	14	260	24	50	27	8	¼"	¼"	¼"	¼"	⅜"	52	100
	50-315	F2	65	50	125	470	595	225	280	125	95	345	280	190	19	110	14	340	32	80	35	10	¼"	¼"	¼"	¼"	⅜"	84	100
65-125		F1	80	65	100	360	460	160	180	125	95	280	212	150	14	110	14	260	24	50	27	8	¼"	¼"	⅜"	⅜"	⅜"	42	100
65-160		F1	80	65	100	360	460	160	200	125	95	280	212	150	14	110	14	260	24	50	27	8	¼"	¼"	⅜"	⅜"	⅜"	42	100
65-200		F2	80	65	100	360	460	180	225	125	95	320	250	190	14	110	14	260	24	50	27	8	¼"	¼"	⅜"	⅜"	⅜"	50	140
65-250		F2	80	65	100	470	570	200	250	160	120	360	280	200	19	110	14	340	32	80	35	10	¼"	¼"	⅜"	⅜"	⅜"	73	140
65-315		F2	80	65	125	470	595	225	280	160	120	400	315	240	19	110	14	340	32	80	35	10	¼"	¼"	⅜"	⅜"	⅜"	91	140
	65-400	F2	100	65	125	470	595	260	355	160	120	435	355	275	19	110	14	340	32	80	35	10	¼"	¼"	⅜"	⅜"	⅜"	109	140
80-160		F1	100	80	125	360	485	180	225	125	95	320	250	190	14	110	14	260	24	50	27	8	¼"	¼"	⅜"	⅜"	⅜"	47	140
80-200		F1	100	80	125	470	595	180	250	125	95	345	280	215	14	110	14	340	32	80	35	10	¼"	¼"	⅜"	⅜"	⅜"	62	140
80-250		F2	100	80	125	470	595	200	280	160	120	400	315	240	19	110	14	340	32	80	35	10	¼"	¼"	⅜"	⅜"	⅜"	77	140
80-315		F2	100	80	125	470	595	250	315	160	120	400	315	240	19	110	14	340	32	80	35	10	¼"	¼"	⅜"	⅜"	⅜"	101	140
	80-400	F2	100	80	125	530	655	280	355	160	120	435	355	275	19	110	14	360	42	110	45	12	¼"	¼"	⅜"	⅜"	⅜"	158	140
	100-160	F1	125	100	125	470	595	200	280	160	120	360	280	200	19	110	14	340	32	80	35	10	¼"	¼"	⅜"	⅜"	⅜"	69	140
100-200		F1	125	100	125	470	595	200	280	160	120	360	280	200	19	110	14	340	32	80	35	10	¼"	¼"	⅜"	⅜"	⅜"	74	140
100-250		F2	125	100	140	470	610	225	280	160	120	400	315	240	19	110	14	340	32	80	35	10	¼"	¼"	⅜"	⅜"	⅜"	86	140
100-315		F2	125	100	140	470	610	250	315	160	120	400	315	240	19	110	14	340	32	80	35	10	¼"	¼"	⅜"	⅜"	⅜"	111	140
100-400		F2	125	100	140	530	670	280	355	200	150	500	400	300	23	110	14	360	42	110	45	12	¼"	¼"	⅜"	⅜"	⅜"	174	140
	125-200	F1	150	125	140	470	610	250	315	160	120	400	315	240	19	110	14	340	32	80	35	10	¼"	¼"	½"	½"	⅜"	90	140
125-250		F2	150	125	140	470	610	250	355	160	120	400	315	240	19	110	14	340	32	80	35	10	¼"	¼"	½"	½"	⅜"	97	140
125-315		F1	150	125	140	530	670	280	355	200	150	500	400	300	23	110	14	360	42	110	45	12	¼"	¼"	½"	½"	⅜"	159	140
125-400		F2	150	125	140	530	670	315	400	200	150	500	400	300	23	110	14	360	42	110	45	12	¼"	¼"	½"	½"	⅜"	188	140
	150-200	F1	200	150	160	470	630	280	355	200	150	500	400	300	23	110	14	340	32	80	35	10	¼"	¼"	½"	½"	⅜"	116	140
	150-250	F2	200	150	160	470	630	280	375	200	150	500	400	300	23	110	14	340	32	80	35	10	¼"	¼"	½"	½"	⅜"	132	140
150-315		F1	200	150	160	530	690	280	400	200	150	550	450	350	23	110	14	360	42	110	45	12	¼"	¼"	½"	½"	⅜"	168	140
150-400		F2	200	150	160	530	690	315	450	200	150	550	450	350	23	110	14	360	42	110	45	12	¼"	¼"	½"	½"	⅜"	201	140
	200-260	F1	250	200	200	560	760	315	450	250	200	600	500	360	23	110	14	390	42	110	45	12	¼"	¼"	½"	½"	⅜"	244	250
	200-315	F1	250	200	200	545	745	315	450	250	200	600	500	360	23	110	14	375	42	110	45	12	¼"	¼"	½"	½"	⅜"	220	200
	250-315	F1	250	250	250	750	1000	355	525	300	240	660	550	400	27	110	14	570	55	110	59	16	¼"	¼"	½"	½"	½"	371	250

* x: gap needed to withdraw the rotor from the drive end without dismantling motor and pipework (spacer coupling). Holes b1, b2 and b4 are not drilled in ductile iron, cast steel and stainless steel volute casings.

Dimensions, large sizes

Sizes 150-500 to 250-500 · all dimensions in mm.

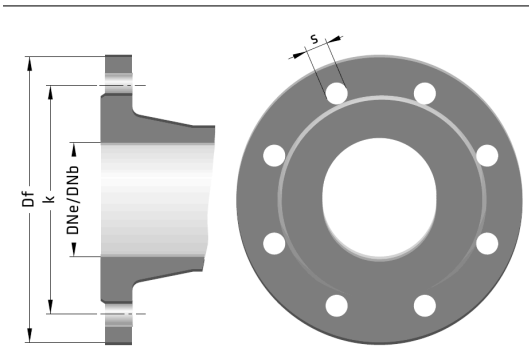


Pump type	Form	Overall dimensions								Foot dimensions									Shaft end				Support connections					Weight	Space
		DNe	DNb	A	f	L	h1	h2	e	m1	m2	n1	n2	n3	s1	p	s2	w	d	l1	t	u	b1	b2	b3	b4	b5	kg	x*
150-500	F2	200	150	200	750	950	400	450	350	250	200	720	600	435	27	140	20	560	55	110	59	16	¼"	¼"	¾"	¾"	½"	430	250
200-400	F2	250	200	200	750	950	400	400	320	250	200	600	500	360	23	140	20	560	55	110	59	16	¼"	¼"	¾"	¾"	½"	394	250
200-500	F2	250	200	200	800	1000	450	475	370	300	200	720	600	435	27	140	20	560	65	140	69	18	¼"	¼"	¾"	¾"	½"	540	250
250-400	F2	300	250	230	800	1030	450	480	350	300	240	720	600	435	27	140	20	560	65	140	69	18	¼"	¼"	¾"	¾"	½"	430	250
250-500	F2	300	250	225	800	1025	475	500	400	300	240	720	600	435	27	140	20	560	65	140	69	18	¼"	¼"	¾"	¾"	½"	620	250

* x: gap needed to withdraw the rotor from the drive end without dismantling motor and pipework (spacer coupling). Holes b1, b2 and b4 are not drilled in ductile iron, cast steel and stainless steel volute casings.

Flange dimensions · EN 1092-2

DNe / DNb	PN 16			
	Df	k	s	n
32	140	100	18	4
40	150	110	18	4
50	165	125	18	4
65	185	145	18	4
80	200	160	18	8
100	220	180	18	8
125	250	210	18	8
150	285	240	22	8
200	340	295	22	12
250	405	355	26	12
300	460	410	26	12

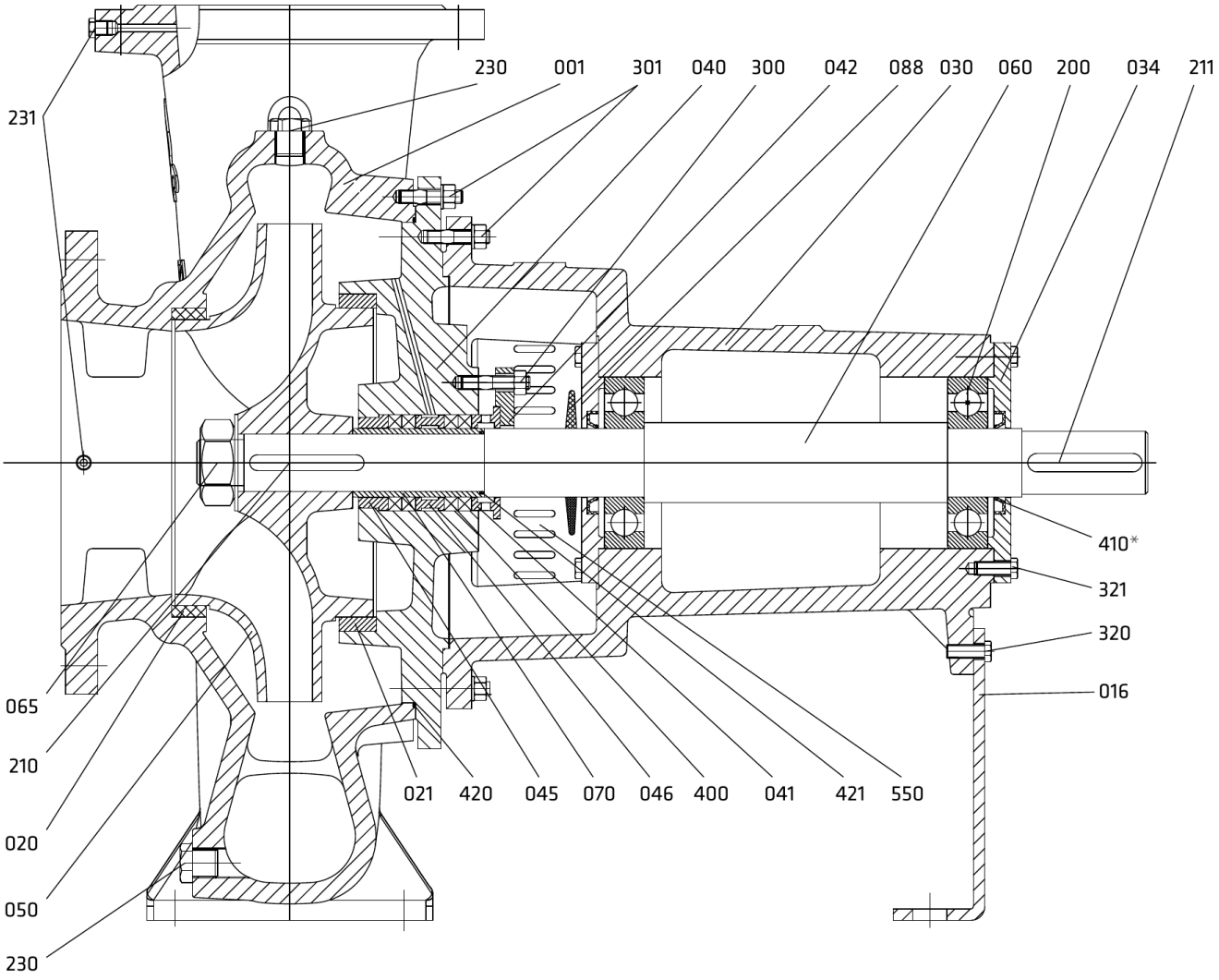


n = number of holes

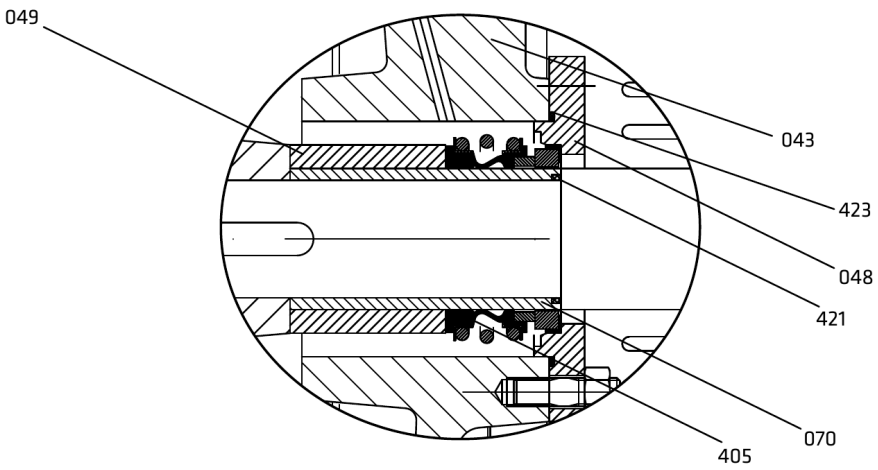
Sectional drawing

Large sizes: Syroc SHP 150-500, 200-400, 200-500, 250-315, 250-400 and 250-500.

Cross section, soft packing



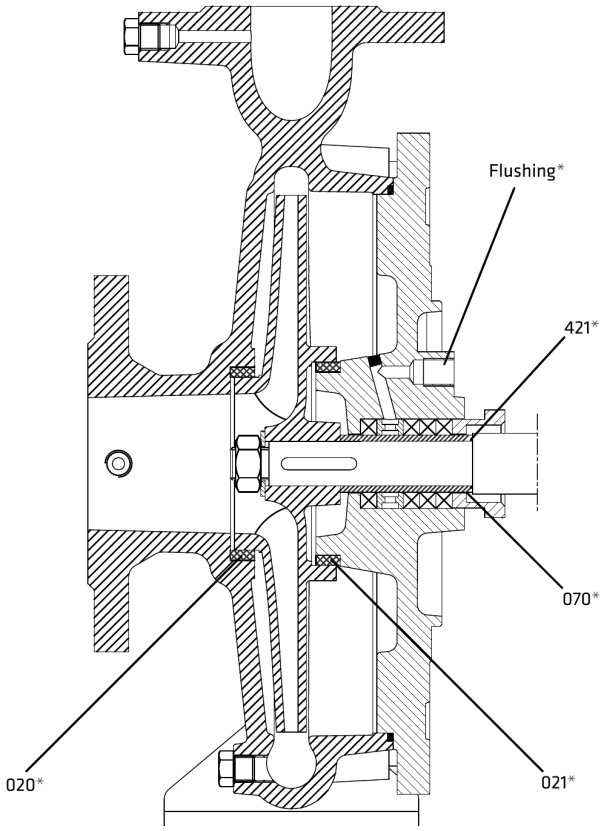
Same sizes with mechanical seal



Optional applications and part list

Flushing connection, wear rings and shaft sleeve (* optional parts).

Optional applications



Part list

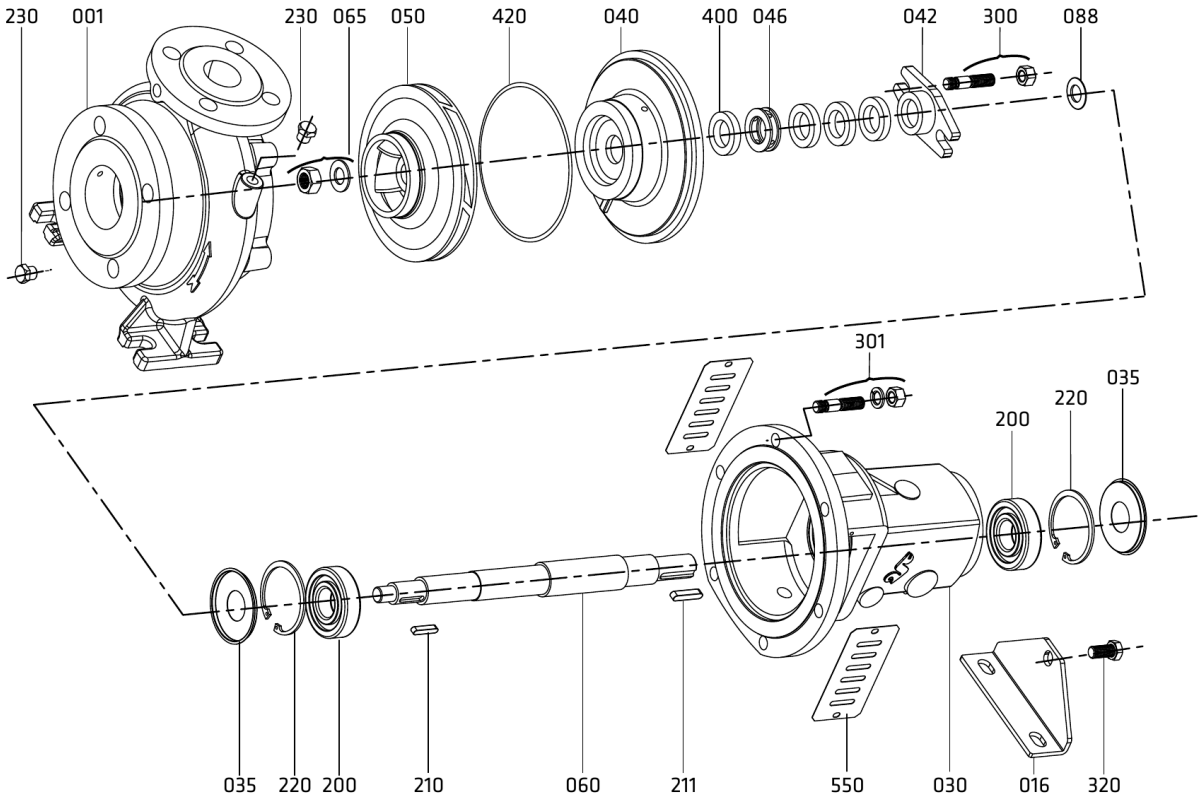
001	Volute casing
016	Support foot
020*	Wear ring (casing)
021*	Wear ring (seal cover)
030	Bearing housing
034*	Bearing cover (GG)
035	Bearing cover (St)
040	Soft packing seal cover
041	Gland sleeve
045	Sleeve
042	Gland
043*	Mechanical seal cover
046	Lantern ring
048	Cover
049*	Mechanical seal spacer sleeve
050	Impeller
060	Shaft
065	Impeller nut and washer
070*	Shaft sleeve
088	Thrower
200	Ball bearing
210	Impeller key
211	Coupling key
220	Circlip
230	Screw
231*	Screw
232*	Oil filling plug and breather
234*	Oil level indicator
300	Gland stud and nut
301	Stud, washer and nut
320	Screw
321*	Screw
400	Soft packing
405*	Mechanical seal
410*	Lip seal
420	O-ring
421*	O-ring
422*	Gasket
423	O-ring
550	Guard

* optional

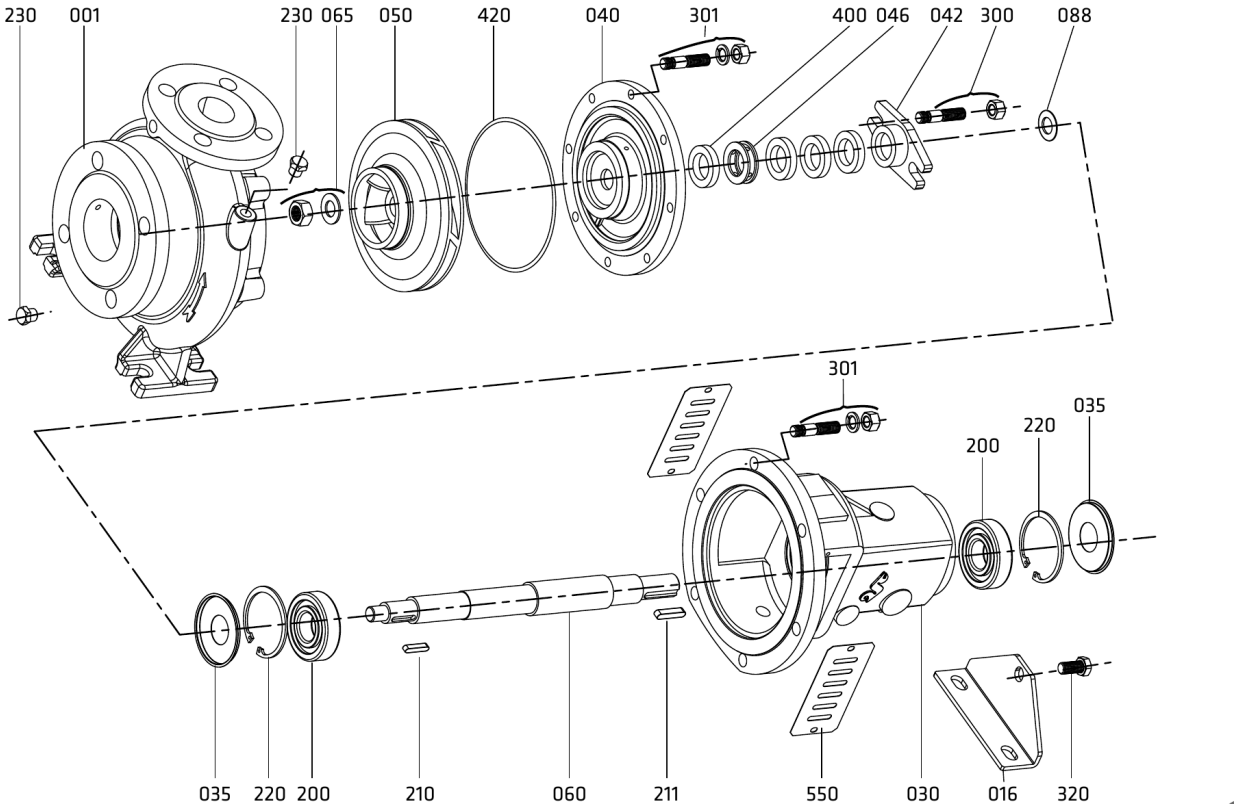
Assembly drawings: soft packing

Exploded views of the soft-packed Syroc SHP, forms F1 and F2.

Form F1 · soft packing



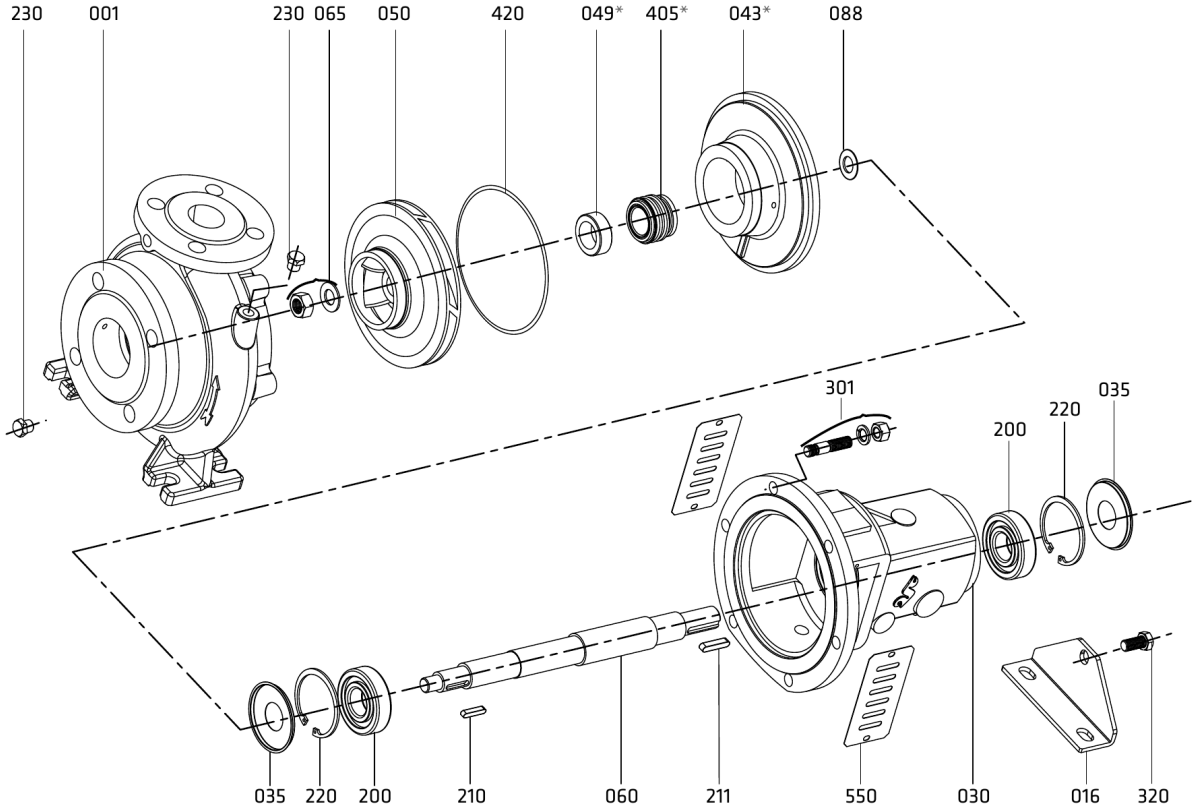
Form F2 · soft packing



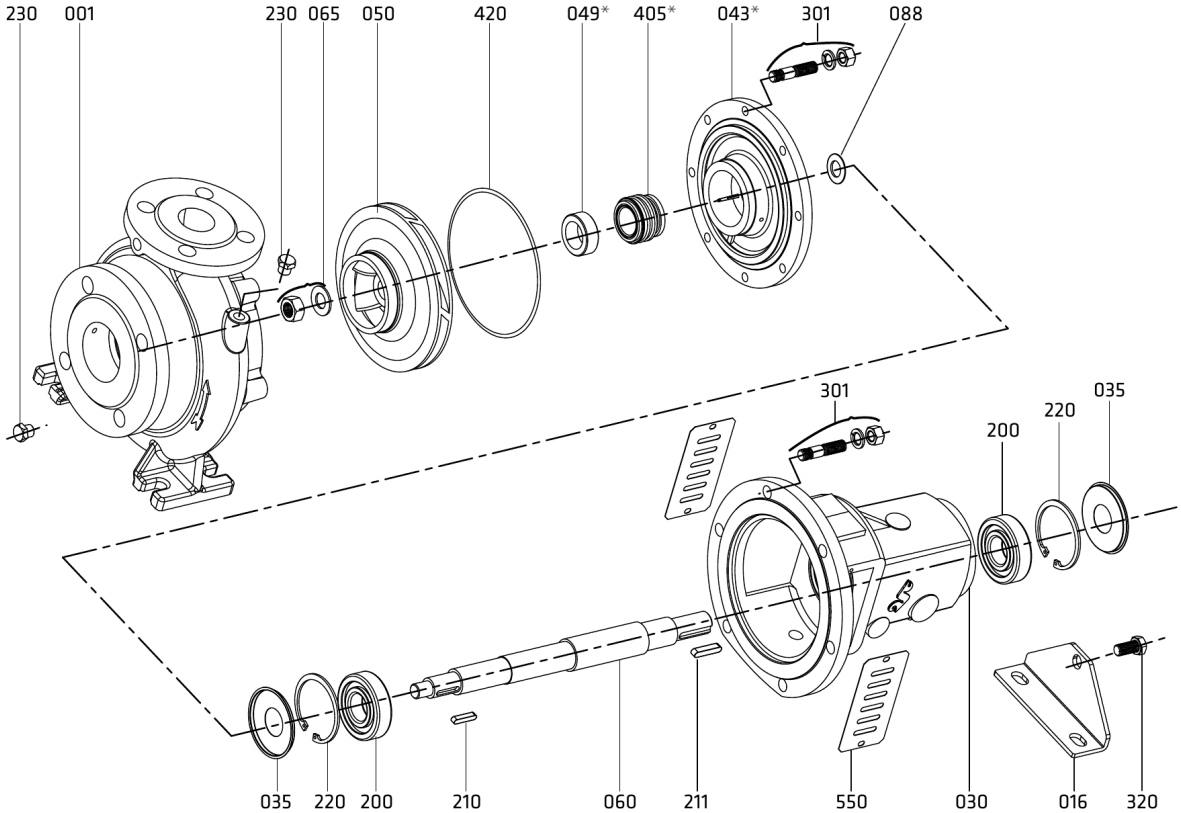
Assembly drawings: mechanical seal

Exploded views of the Syroc SHP with mechanical seal, forms F1 and F2.

Form F1 · mechanical seal



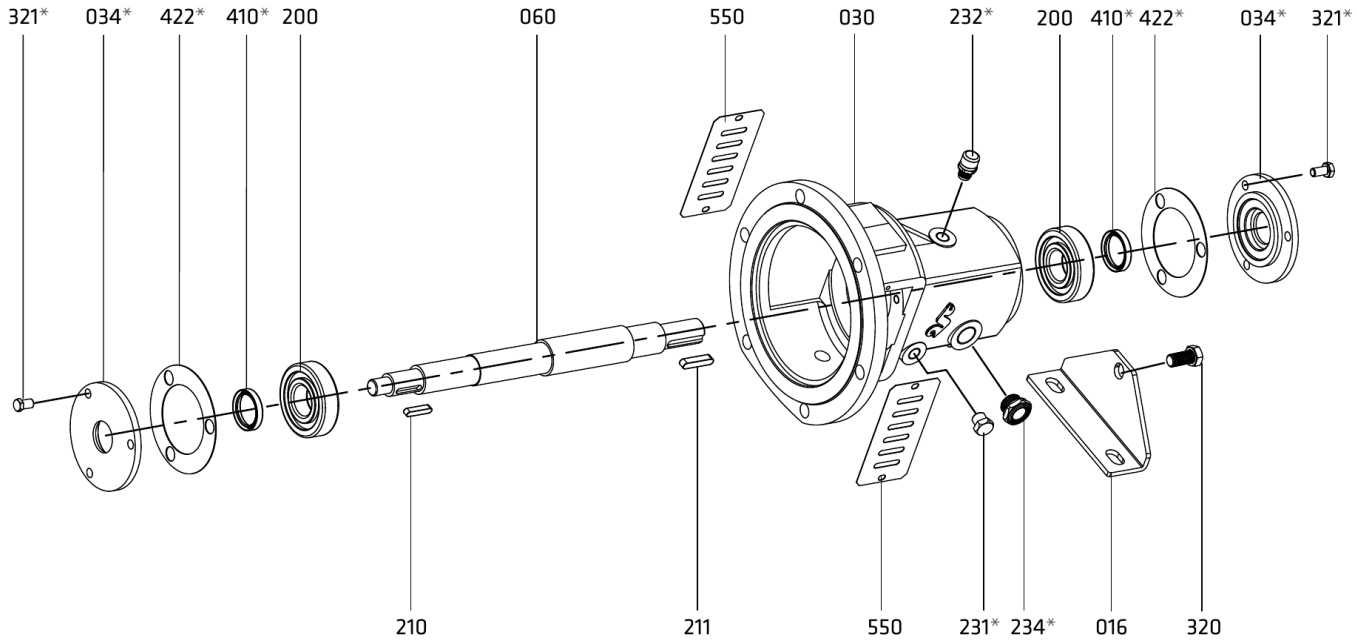
Form F2 · mechanical seal



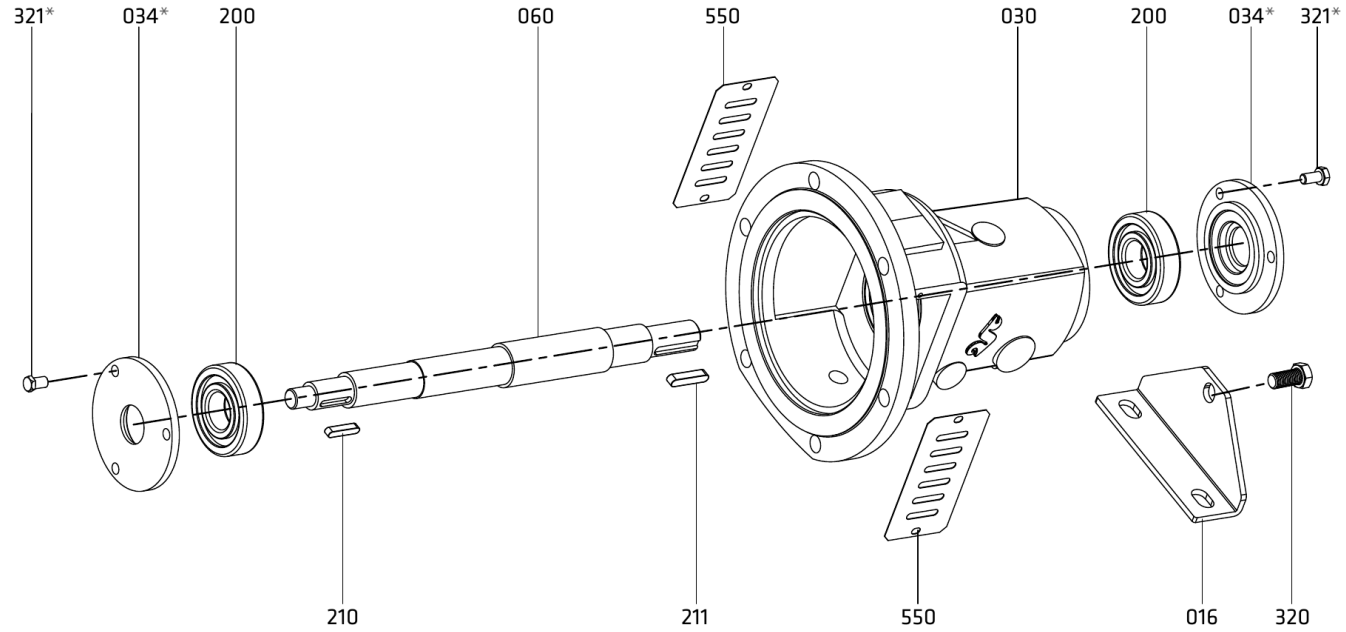
Bearing housing options

Oil-lubricated and re-greasable bearing housings (* optional parts).

Oil-lubricated bearing housing



Re-greasable bearing housing



Materials

Material options per part and material equivalents.

Material options

Part	10	30	3S	20	60	6L	70	7L	8M	7D	7S	8N	80	4C	4A	40	20	80	8T	60	7L	7E	7D
	0.6025	0.7040	0.7043	1.0619	1.4308	1.4309	1.4408	1.4409	1.4500	1.4517	1.4469	1.4317	1.4008	2.1050.01	2.0975.01	2.1096.01	1.0503	1.4021	1.4021+QT	1.4301	1.4404	1.4460	1.4462
Volute casing	●	○	○	○	○	○	○	○	○	○	○	○	○	○									
Seal cover (mech. or soft)	●	○	○	○	○	○	○	○	○	○	○	○	○	○									
Impeller	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○						○	
Shaft																	●	○	○	○	○		○
Bearing housing	●	○	○	○	○	○	○	○															
Wear ring	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○							
Shaft sleeve																	○	○	○	○	○		○
Mechanical seal *	EN 12756																						

● standard manufacturing ○ optional. * Different types and brands of mechanical seal are available on request. Other casing and shaft materials on request.

Material equivalents

Description	Material no.	DIN / EN	AISI / SAE / ASTM
Cast Iron	0.6025	EN-GJL-250 (GG25)	A48 Class 40B
Nodular Cast Iron	0.7040	EN-GJS-400-15 (GGG40)	A536 60-40-18
Nodular Cast Iron	0.7043	EN-GJS-400-18-LT (GGG40.3)	A536 60-40-18
Cast Steel	1.0619	GP240GHGS-C25	A216 WCB
Chrome Nickel Cast Steel	1.4308	GX5CrNi19-10	A351 CF8
Chrome Nickel Cast Steel (low carbon)	1.4309	GX2CrNi19-11	A351 CF3
Chrome Nickel Molybdenum Cast Steel	1.4408	GX5CrNiMo19-11-2	A351 CF8M
Chrome Nickel Molybdenum Cast Steel (low carbon)	1.4409	GX2CrNiMo19-11-2	A351 CF3M
Austenitic Cast Steel	1.4500	GX7NiCrMoCuNb25-20	A351 CN7M
Austenitic - Ferritic Cast Steel (duplex)	1.4517	GX2CrNiMoCuN25-6-3-3	A890 CD4MCuN
Austenitic - Ferritic Cast Steel (super duplex)	1.4469	GX2CrNiMoN26-7-4	A890 CE3MN
Martensitic Stainless Cast Steel	1.4317	GX4CrNi13-4	A352 CA6NM
Martensitic Stainless Cast Steel	1.4008	GX7CrNiMo12-1	A217 CA15
Cast Bronze (tin alloy)	2.1050.01	G-CuSn10	B427 C90700
Cast Bronze (nickel alloy)	2.0975.01	G-CuAl10Ni	B148 C95500
Cast Bronze (Leaded)	2.1096.01	G-CuSn5ZnPb	B584 C83600
Carbon Steel	1.0503	C45	AISI 1045
Chrome Steel	1.4021	X20Cr13	A276 Type 420
Chrome Steel (Heat treated)	1.4021	X20Cr13	A276 Type 420+QT
Chrome Nickel Steel	1.4301	X5CrNi18-10	A276 Type 304
Chrome Nickel Steel (low carbon)	1.4404	X2CrNiMo17-12-2	A276 Type 316L
Duplex (austenitic-ferritic) Steel	1.4460	X3CrNiMoN27-5-2	AISI 329
Duplex (austenitic-ferritic) Steel	1.4462	X2CrNiMoN22-5-3	UNS S32205

Syroc® SPP

Heavy-duty process pumps to ISO 2858

Single-stage end-suction process pumps with dry shaft and oil-lubricated bearings, for clean or normally contaminated liquids up to 175 °C.

At a glance

Up to 1500 m³/h
flow

Up to 160 m
head

−10 to 175 °C
operating temperature, depending on material

16 (25) bar
casing pressure

38 sizes
28 ISO 2858 basic sizes + 10 additional sizes



Supplied by Vaikon

Vaikon selects the right Syroc SPP pump for your duty point and supplies it as bare-shaft pump or as a complete unit with motor.

Syroc SPP technical data

Performance, design and designation of the Syroc SPP series.

Technical data

Discharge flange
DN 32 … DN 250

Capacity
up to 1500 m³/h

Head
up to 160 m

Speed
up to 2900 rpm

Operating temperature
−10 to +175 °C [1]

Casing pressure (Pmax)
16 bar (25 bar) [1]

Pmax = suction pressure + shut-off head. [1] The pump material depends on the pumped liquid, operating temperature and pressure; contact Vaikon for details.

Handled liquids

Clean or normally contaminated, low or medium-viscosity liquids without solid and fibrous particles.

Shaft sealing

- Soft packing, or single, double and cartridge mechanical seals, depending on the application.
- External seal cooling system available if required.

Pump designation

SPP150x125-315.D305.SS.BS.CI.II.KH.D000-BUCD13.1450

Series · suction x discharge DN · frame size · impeller Ø · sealing · bearing · casing, impeller and shaft material · discharge position · mounting method + motor power · speed. The full key is on page 3.

Design features

- Horizontal, radially split volute casing; single-stage end-suction centrifugal pump with closed or semi-open impeller.
- Besides the 28 ISO 2858 basic sizes there are 10 additional sizes; their dimensions may differ from other suppliers.
- Heavy-duty dry shaft, not in contact with the pumped liquid.
- Confined casing gaskets prevent blow-out under pressure.
- Suction and discharge flanges to EN 1092-2 / PN 16.
- Back-pull-out design: the bearing assembly, impeller and casing cover can be removed without taking the volute casing out of the piping. With a spacer coupling, the rotor can be removed without dismantling the motor.
- All impellers balanced dynamically or statically to ISO 1940 class 6.3.
- Axial thrust balanced by balancing holes on closed impellers and by back vanes on semi-open impellers.
- Direction of rotation: clockwise, viewed from the drive end.
- Bearings are always oil-lubricated.

Pump designation

How a Syroc SPP type code is built up, position by position.



#	Position	Example	Codes
1	**Pump series**	SPP	**SPP** Syroc SPP heavy-duty process pump to ISO 2858
2	**Suction size**	150	nominal diameter of the suction flange (DN)
3	**Discharge size**	125	nominal diameter of the discharge flange (DN)
4	**Frame size**	315	hydraulic size = nominal impeller diameter: 125 · 160 · 200 · 250 · 315 · 400 · 500
5	**Impeller diameter**	D305	D + actual (trimmed) impeller diameter in mm, e.g. D328 = 328 mm
6	**Sealing type**	SS	**SS** single mechanical seal · **SA** gland packing
7	**Bearing type**	BS	**BS** standard bearing
8	**Casing material**	CI	**CI** cast iron · **CS** stainless steel 316 · **CM** stainless steel 304 · **CD** duplex stainless steel
9	**Impeller material**	II	**II** cast iron · **IS** stainless steel 316 · **IM** stainless steel 304 · **ID** duplex stainless steel
10	**Shaft material**	KH	**KH** AISI 420 stainless steel · **KS** stainless steel 316 · **KD** duplex stainless steel
11	**Discharge position**	D000	**D000** 0° · **D090** 90° · **D180** 180° · **D270** 270°
12	**Mounting method**	BUCD	**BUCD** direct drive · **BUCDL** direct drive, left-hand rotating · empty = bare-shaft pump
13	**Installed motor power**	13	motor power code, see the table below · **00** = motor provided by the customer
14	**Pump speed**	1450	speed in rpm, e.g. 1450 · 2900 · 0990

Motor power codes (position 13)

00 by customer	**075** 0.75 kW	**01** 1.5 kW	**02** 2.2 kW	**03** 3 kW	**04** 4 kW	**05** 5.5 kW	**06** 7.5 kW	**07** 11 kW	**08** 15 kW
09 18.5 kW	**10** 22 kW	**11** 30 kW	**12** 37 kW	**13** 45 kW	**14** 55 kW	**15** 75 kW	**16** 90 kW	**17** 110 kW	**18** 132 kW
19 160 kW	**20** 200 kW	**21** 250 kW	**22** 315 kW	**23** 355 kW	**24** 400 kW	**25** 450 kW	**26** 500 kW	**27** 800 kW	

Examples

Complete unit with motor

SPP150x125-315.D305.SS.BS.CI.II.KH.D000-BUCD13.1450

Pump with 45 kW motor, direct drive, 1450 rpm.

Bare-shaft pump

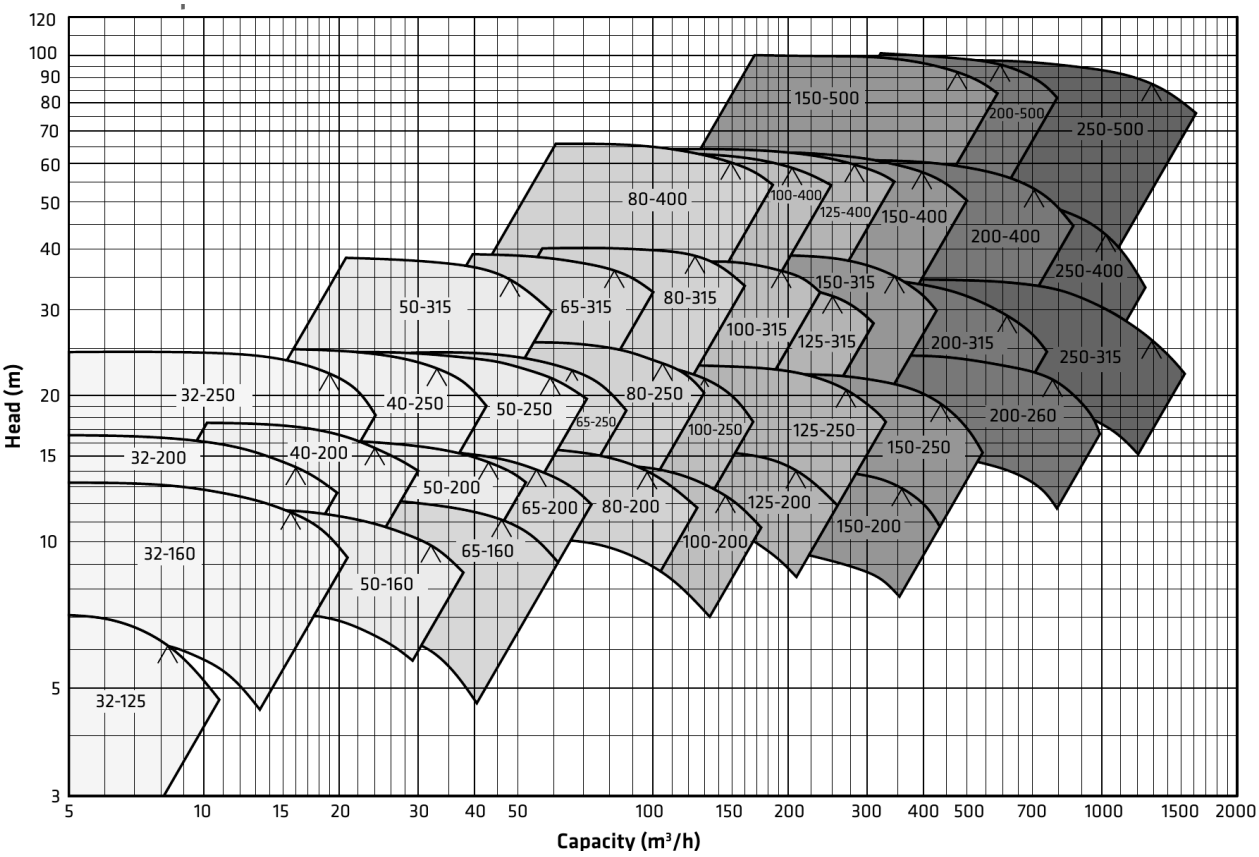
SPP150x125-315.D305.SS.BS.CI.II.KH.D000

Positions 12 to 14 stay empty: no mounting method, motor or speed.

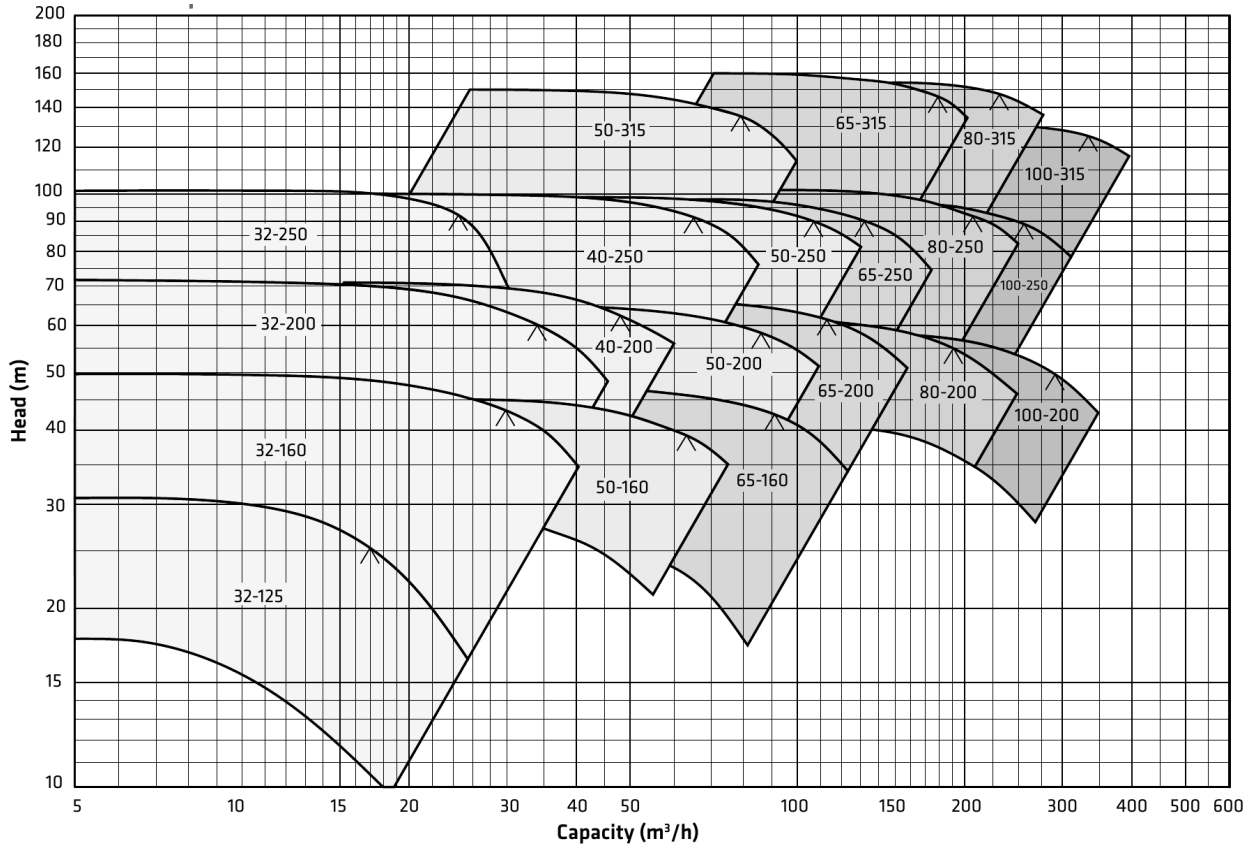
Performance range

Syroc SPP field chart · head (m) against capacity (m³/h).

1450 rpm

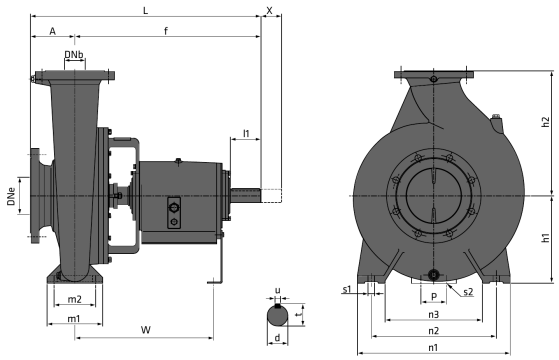


2900 rpm



Dimensions

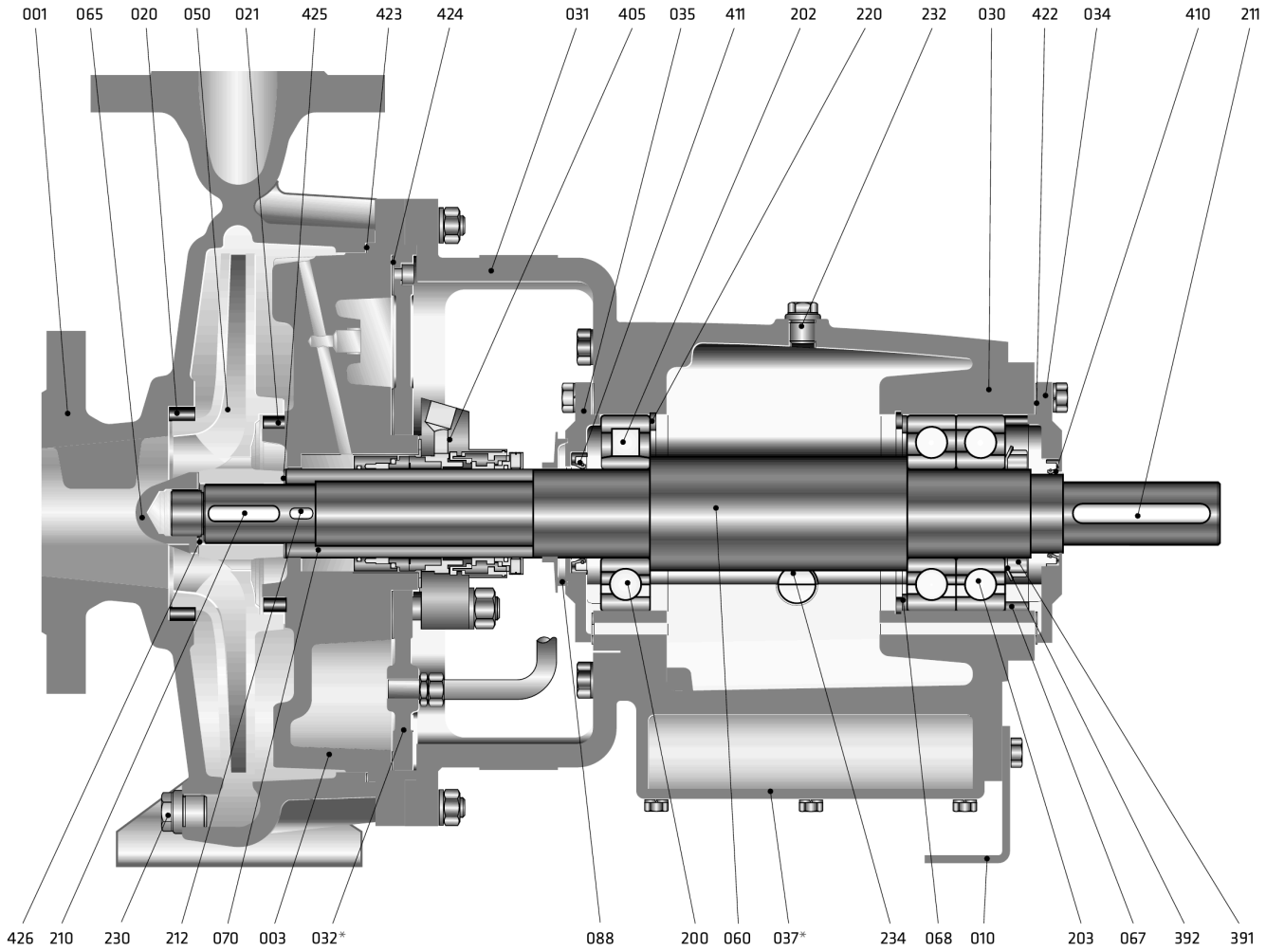
All sizes · all dimensions in mm. Dimensions subject to change.



Pump type		Overall dimensions							Support and foot dimensions									Shaft end				Spacer
ISO 2858	Additional	DNe	DNb	A	f	L	h1	h2	m1	m2	n1	n2	n3	s1	p	s2	w	d	l1	t	u	x
32-125		50	32	80	385	465	112	140	100	70	190	140	90	14	110	14	285	24	50	27	8	100
32-160		50	32	80	385	465	132	160	100	70	240	190	140	14	110	14	285	24	50	27	8	100
32-200		50	32	80	385	465	160	180	100	70	240	190	140	14	110	14	285	24	50	27	8	100
32-250		50	32	80	385	465	180	225	125	95	320	250	190	14	110	14	370	32	80	35	10	100
40-200		65	40	100	385	485	160	180	100	70	265	212	165	14	110	14	285	24	50	27	8	100
40-250		65	40	100	500	600	180	225	125	95	320	250	190	14	110	14	370	32	80	35	10	100
50-160		80	50	100	385	485	160	180	100	70	265	212	165	14	110	14	285	24	50	27	8	100
50-200		80	50	100	385	485	160	200	100	70	265	212	165	14	110	14	285	24	50	27	8	100
50-250		80	50	125	500	625	180	225	125	95	320	250	190	14	110	14	370	32	80	35	10	100
50-315		80	50	125	500	625	225	280	125	95	345	280	215	14	110	14	370	32	80	35	10	100
65-160		100	65	100	500	600	160	200	125	95	280	212	150	14	110	14	370	32	80	35	10	140
65-200		100	65	100	500	600	180	225	125	95	320	250	190	14	110	14	370	32	80	35	10	140
65-250		100	65	125	500	625	200	250	160	120	360	280	200	19	110	14	370	32	80	35	10	140
65-315		100	65	125	530	655	225	280	160	120	400	315	240	19	110	14	370	42	110	45	12	140
80-200		125	80	125	500	625	180	250	125	95	345	280	215	14	110	14	370	32	80	35	10	140
80-250		125	80	125	500	625	225	280	160	120	400	315	240	19	110	14	370	32	80	35	10	140
80-315		125	80	125	530	655	250	315	160	120	400	315	240	19	110	14	370	42	110	45	12	140
80-400		125	80	125	530	655	280	355	160	120	435	355	275	19	110	14	370	42	110	45	12	140
100-200		125	100	125	500	625	200	280	160	120	360	280	200	19	110	14	370	32	80	35	10	140
100-250		125	100	140	530	670	225	280	160	120	400	315	240	19	110	14	370	42	110	45	12	140
100-315		125	100	140	530	670	250	315	160	120	400	315	240	19	110	14	370	42	110	45	12	140
100-400		125	100	140	530	670	280	355	200	150	500	400	300	23	110	14	370	42	110	45	12	140
	125-200	150	125	140	500	640	250	315	160	120	400	315	240	19	110	14	370	32	80	35	10	140
125-250		150	125	140	530	670	250	355	160	120	400	315	240	19	110	14	370	42	110	45	12	140
125-315		150	125	140	530	670	280	355	200	150	500	400	300	23	110	14	370	42	110	45	12	140
125-400		150	125	140	530	670	315	400	200	150	500	400	300	23	110	14	370	42	110	45	12	140
	150-200	200	150	160	545	705	280	355	200	150	550	450	350	23	140	14	381	42	110	45	10	180
150-250		200	150	160	530	690	280	375	200	150	550	450	350	23	140	14	366	42	110	45	12	180
150-315		200	150	160	670	830	315	400	200	150	550	450	350	23	140	19	500	48	110	51,5	14	180
150-400		200	150	160	670	830	315	450	200	150	550	450	350	23	140	19	500	48	110	51,5	14	180
	150-500	200	150	200	730	930	400	525	250	200	720	600	435	27	140	19	495	55	110	59	16	140
	200-260	250	200	200	630	830	355	450	250	200	600	500	360	23	140	20	410	48	110	51,55	14	160
	200-315	250	200	200	684	884	355	450	250	200	600	500	360	23	140	20	520	48	110	45	14	160
	200-400	250	200	180	725	905	400	500	250	200	600	500	360	23	140	20	490	55	110	59	16	160
	200-500	250	200	210	925	1135	400	525	300	240	720	600	435	27	140	20	640	70	140	74,5	20	160
	250-315	300	250	230	730	960	400	525	300	240	720	600	435	27	140	20	515	55	110	59	16	200
	250-400	300	250	230	750	980	400	525	300	240	720	600	435	27	140	20	515	55	110	59	16	200
	250-500	300	250	225	940	1165	450	630	300	240	720	600	435	27	140	20	670	70	140	74,5	20	200

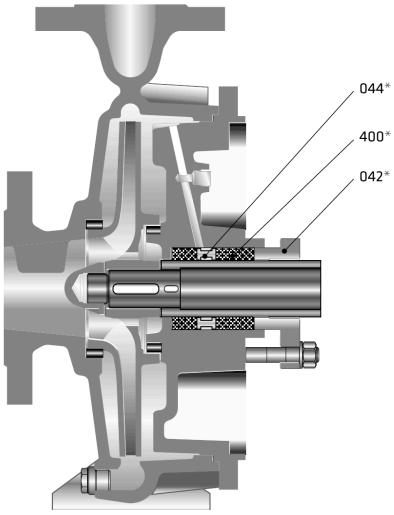
Sectional drawing

Syroc SPP with mechanical seal and oil-lubricated bearing bracket (* optional parts).

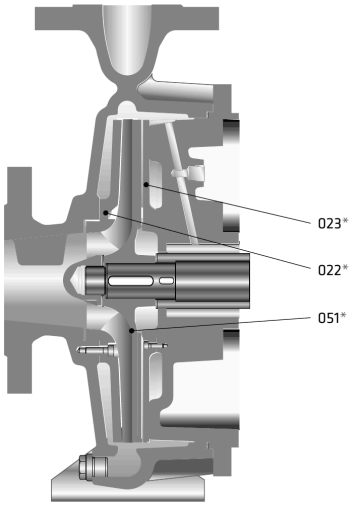


Optional applications

Soft packing



Semi-open impeller



Part list and flanges

Parts referenced in the sectional drawings (* optional parts) and flange dimensions.

Part list

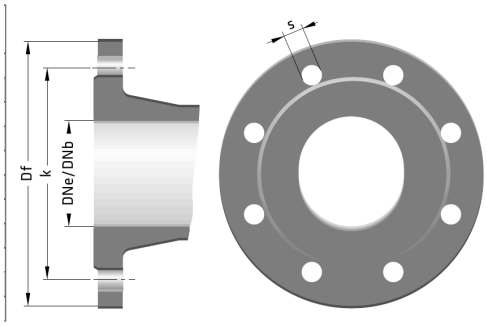
001	Volute casing
003	Casing cover
010	Support foot
020	Wear ring (casing)
021	Wear ring (casing cover)
022*	Front wear plate
023*	Back wear plate
030	Bearing bracket
031	Bearing bracket lantern
032*	Cooling-heating jacket cover
034	Bearing cover (outboard)
035	Bearing cover (inboard)
037*	Bearing cooling cover
042*	Gland
044*	Lantern ring
050	Impeller
051*	Semi-open impeller
060	Shaft
065	Impeller nut
067	Bearing spacer sleeve
068	Bearing spacer sleeve
070	Shaft protecting sleeve
088	Thrower
200	Ball bearing
202	Cylindrical roller bearing
203	Angular contact ball bearing
210	Key (impeller)
211	Key (coupling)
212	Shaft sleeve key
220	Circlip
230	Drain plug
232	Oil filling plug
234	Oil sight gauge
391	Shaft nut
392	Lock washer
400*	Soft packing
405	Mechanical seal
410	Lip seal
411	Lip seal
422	Gasket
423	Gasket
424	Gasket
425	Gasket
426	Gasket

* optional

Flange dimensions · EN 1092-2

DNe / DNb	PN 16				PN 25			
	Df	k	s	n	Df	k	s	n
32	140	100	18	4	140	100	18	4
40	150	110	18	4	150	110	18	4
50	165	125	18	4	165	125	18	4
65	185	145	18	4	185	145	18	8
80	200	160	18	8	200	160	18	8
100	220	180	18	8	235	190	22	8
125	250	210	18	8	270	220	26	8
150	285	240	22	8	300	250	26	8
200	340	295	22	12	360	310	26	12
250	405	355	26	12	425	370	30	12
300	460	410	26	12	485	430	30	16

n = number of holes



Materials

Material options per part and material equivalents.

Material options

Part	10	30	3S	20	60	6L	70	7L	8M	7D	7S	8N	80	4C	4A	40	80	8T	60	7L	7E	7D
	0.6025	0.7040	0.7043	1.0619	1.4308	1.4309	1.4408	1.4409	1.4500	1.4517	1.4469	1.4317	1.4008	2.1050.01	2.0975.01	2.1096.01	1.4021	1.4021+QT	1.4301	1.4404	1.4460	1.4462
Volute casing	●	○	○	○	○	○	○	○	○	○	○	○	○	○								
Casing cover	●	○	○	○	○	○	○	○	○	○	○	○	○	○								
Impeller	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○					○	
Shaft																	●	○	○	○		○
Bearing bracket	●	○	○	○	○	○	○	○														
Wear ring	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○						
Shaft protecting sleeve																	●	○	○	○		○
Mechanical seal *	EN 12756																					

● standard manufacturing ○ optional. * Different types and brands of mechanical seal are available on request.

Material equivalents

Description	Material no.	DIN / EN	AISI / SAE / ASTM
Cast Iron	0.6025	EN-GJL-250 (GG25)	A48 Class 40B
Nodular Cast Iron	0.7040	EN-GJS-400-15 (GGG40)	A536 60-40-18
Nodular Cast Iron	0.7043	EN-GJS-400-18-LT (GGG40.3)	A536 60-40-18
Cast Steel	1.0619	GP240GHGS-C25	A216 WCB
Chrome Nickel Cast Steel	1.4308	GX5CrNi19-10	A351 CF8
Chrome Nickel Cast Steel (low carbon)	1.4309	GX2CrNi19-11	A351 CF3
Chrome Nickel Molybdenum Cast Steel	1.4408	GX5CrNiMo19-11-2	A351 CF8M
Chrome Nickel Molybdenum Cast Steel (low carbon)	1.4409	GX2CrNiMo19-11-2	A351 CF3M
Austenitic Cast Steel	1.4500	GX7NiCrMoCuNb25-20	A351 CN7M
Austenitic - Ferritic Cast Steel (duplex)	1.4517	GX2CrNiMoCuN25-6-3-3	A890 CD4MCuN
Austenitic - Ferritic Cast Steel (super duplex)	1.4469	GX2CrNiMoN26-7-4	A890 CE3MN
Martensitic Stainless Cast Steel	1.4317	GX4CrNi13-4	A352 CA6NM
Martensitic Stainless Cast Steel	1.4008	GX7CrNiMo12-1	A217 CA15
Cast Bronze (tin alloy)	2.1050.01	G-CuSn10	B427 C90700
Cast Bronze (nickel alloy)	2.0975.01	G-CuAl10Ni	B148 C95500
Cast Bronze (leaded)	2.1096.01	G-CuSn5ZnPb	B584 C83600
Chrome Steel	1.4021	X20Cr13	A276 Type 420
Chrome Steel (heat treated)	1.4021	X20Cr13	A276 Type 420+QT
Chrome Nickel Steel	1.4301	X5CrNi18-10	A276 Type 304
Chrome Nickel Steel (low carbon)	1.4404	X2CrNiMo17-12-2	A276 Type 316L
Duplex (austenitic-ferritic) Steel	1.4460	X3CrNiMoN27-5-2	AISI 329
Duplex (austenitic-ferritic) Steel	1.4462	X2CrNiMoN22-5-3	UNS S32205

SYROC

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- **Fully specified quotation**
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  A Vaikon engineer checks your pumps and process on site.
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Balendijk 205, 3920 Lommel, Belgium
+32 493 05 02 66 · info@vaikon.com
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Values are series maxima; actual limits depend on size, speed and materials. Subject to change.