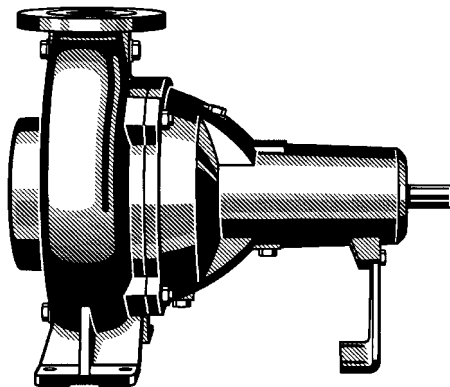
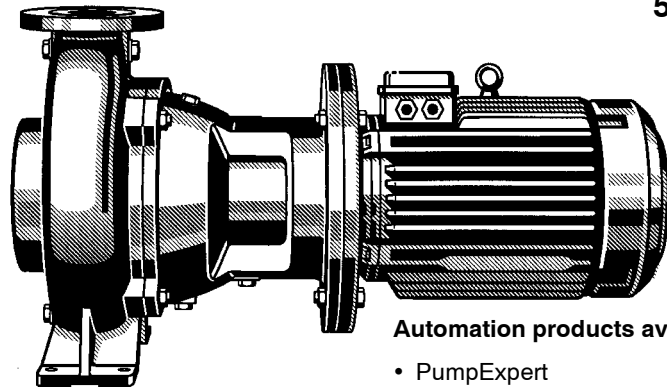


## Volute casing pump for dry-well installation DN 50-500

50 Hz



Sewatec



Sewabloc

Automation products available:

- PumpExpert

### Application

For handling untreated sewage and all types of waste water in sewage treatment and industry.

### Operating Data

		Impeller Types				
		K	D	F	E	
Capacity	Q up to	3240 900	1260 350	680 189	2520 700	m <sup>3</sup> /h l/s
Head	H up to	95	40	40	50	m
Operating pressure	p up to	10	10	10	10	bar
Product temperature	t up to	70	70	70	70	°C

### Design

Horizontally or vertically mounted volute casing pump, also available in close-coupled design with flange-mounted standardized motor type B5/V1 (Sewabloc), with free-flow (F), single-vane (E), multi-vane (K) or open, diagonal single-vane (D) impeller.

### Bearings

Pump and motor sides are fitted with grease-packed rolling element bearings sealed for life.

From bearing bracket S05 onwards supplied with re-greasable bearing.

### Shaft Seal

All pump sizes are fitted with two mechanical seals in series, independent of the direction of rotation. A liquid containing chamber between the seals provides seal cooling and lubrication. Packed gland can be supplied as an alternative from bearing bracket S05 onwards.

### Materials

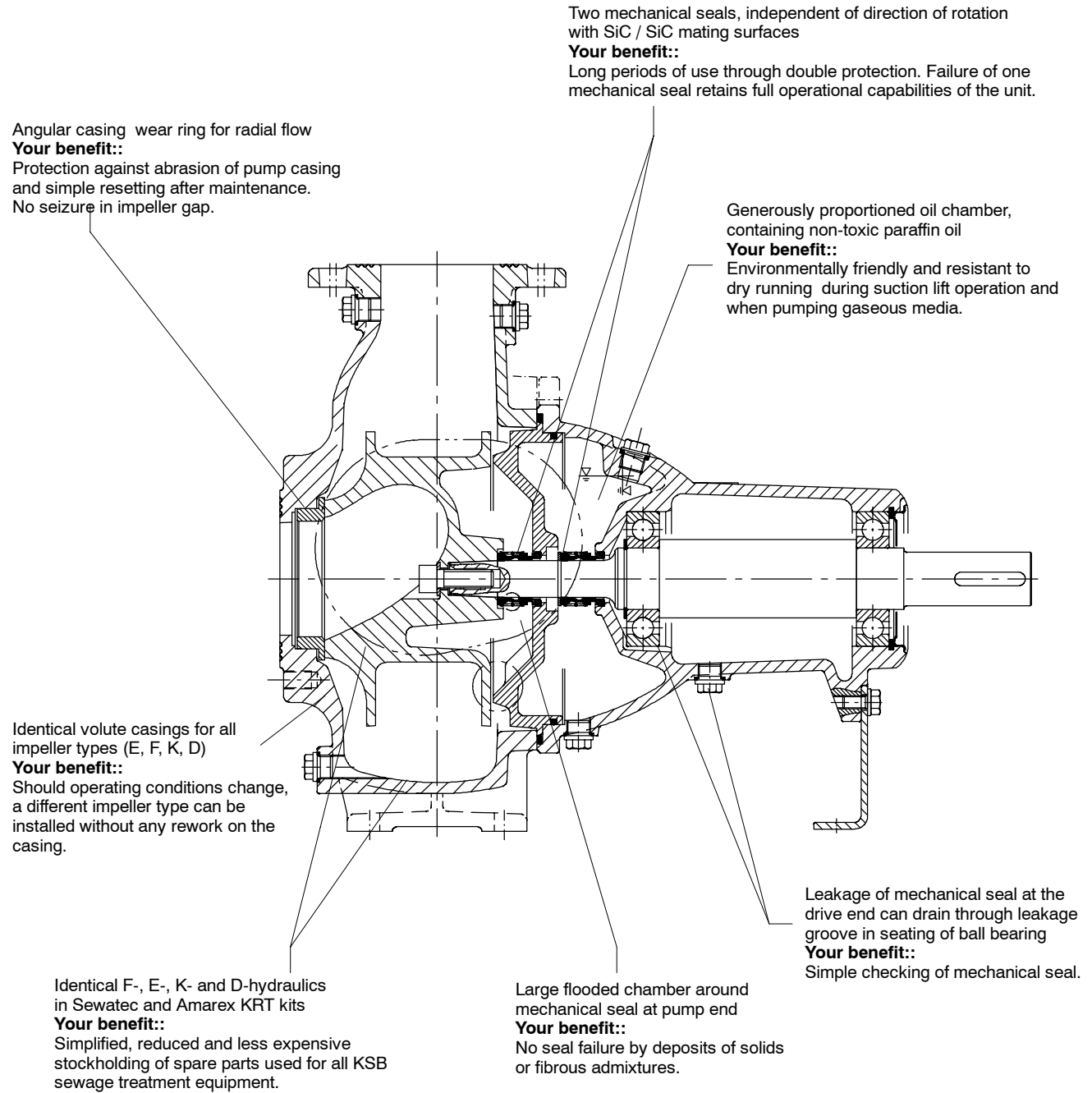
Pump casing:	Cast iron (JL 1040)
Wear plate:	Cast iron (JL 1040) / Duplex Steel / Wear resistant White Iron
Impeller:	Cast iron (JL 1040) / Duplex Steel / Wear resistant White Iron
Shaft:	Stainless steel 420 / FXM-19
Casing wear ring:	Cast iron / VG 434
Mechanical seal:	SiC / SiC

### Designation

	<b>Sewatec</b>	<b>F</b>	<b>100-250</b>	<b>G</b>	<b>3ENH</b>	<b>200L</b>	<b>12</b>
Pump type							
Impeller type							
DN discharge nozzle [mm]							
Nominal impeller diameter [mm]							
Material variant							
Installation variant							
Motor size							
Number of poles							

**Product Features**

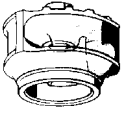


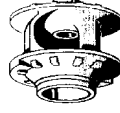
based on Sewatec E 100-250



Impeller Types

Sewatec F 100 - 250 / 1 G V

K, D, F, E

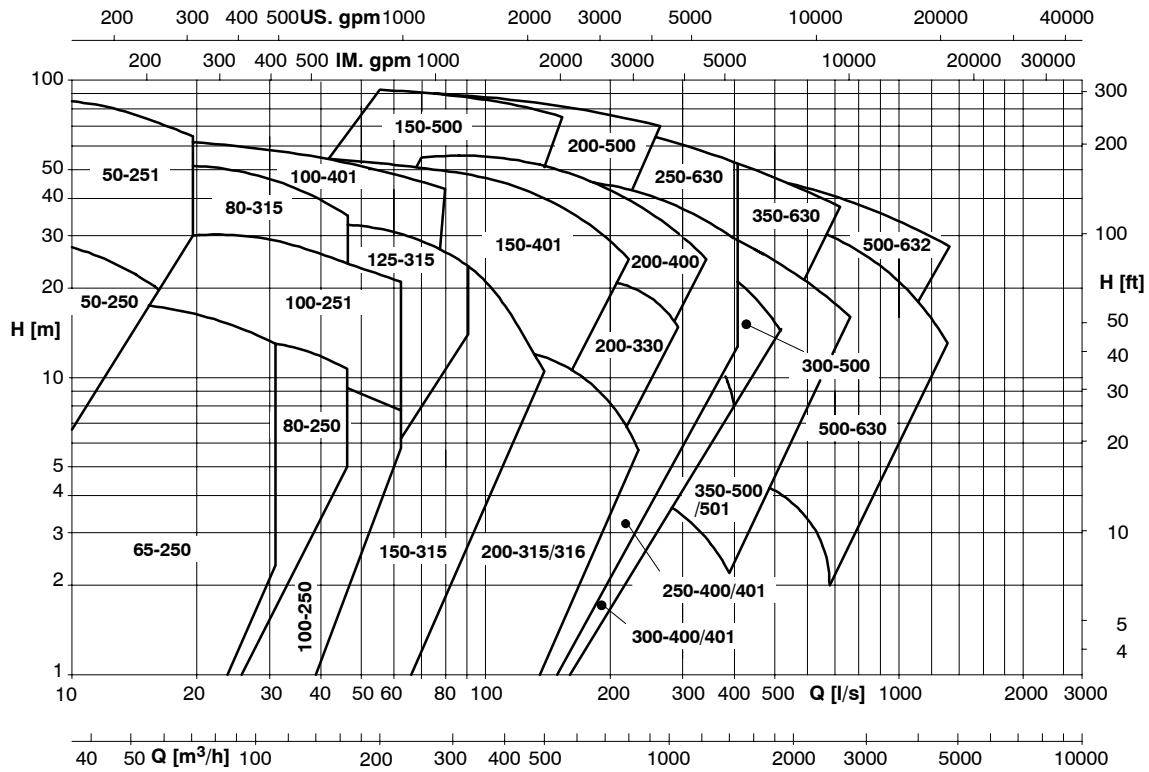
 <p>(K)</p>	<p>Closed multi-vane impeller</p> <hr/> <p>K-Impeller for contaminated liquids containing sludges and solids which are non-gaseous and not containing fibres liable to twist or bunch.</p> <ul style="list-style-type: none"> <li>● screened sewage</li> <li>● mechanically treated sewage</li> <li>● industrial waste water</li> <li>● effluent from waste disposal sites</li> <li>● storm water</li> <li>● activated sludge</li> <li>● industrial effluent</li> </ul>	 <p>(D)</p>	<p>Open, diagonal single vane impeller</p> <hr/> <p>D-Impeller for sewage containing solid substances, long fibres and coarse dirt.</p> <ul style="list-style-type: none"> <li>● raw sewage</li> <li>● mixed water</li> <li>● raw and digested sludge</li> <li>● activated sludge</li> <li>● circulated and heated sludge</li> </ul>
 <p>(F)</p>	<p>Free-flow impeller</p> <hr/> <p>F-Impeller for liquids containing long fibres, solid substances, coarse dirt as well as gas or air.</p> <ul style="list-style-type: none"> <li>● raw sewage</li> <li>● activated sludge</li> <li>● circulated and heated sludge</li> <li>● raw and digested sludge</li> <li>● mixed water</li> </ul>	 <p>(E)</p>	<p>Single vane impeller</p> <hr/> <p>E-Impeller for sewage containing long fibres and solid substances.</p> <ul style="list-style-type: none"> <li>● raw sewage</li> <li>● mixed water</li> <li>● raw and digested sludge</li> <li>● activated sludge</li> <li>● circulated and heated sludge</li> </ul>



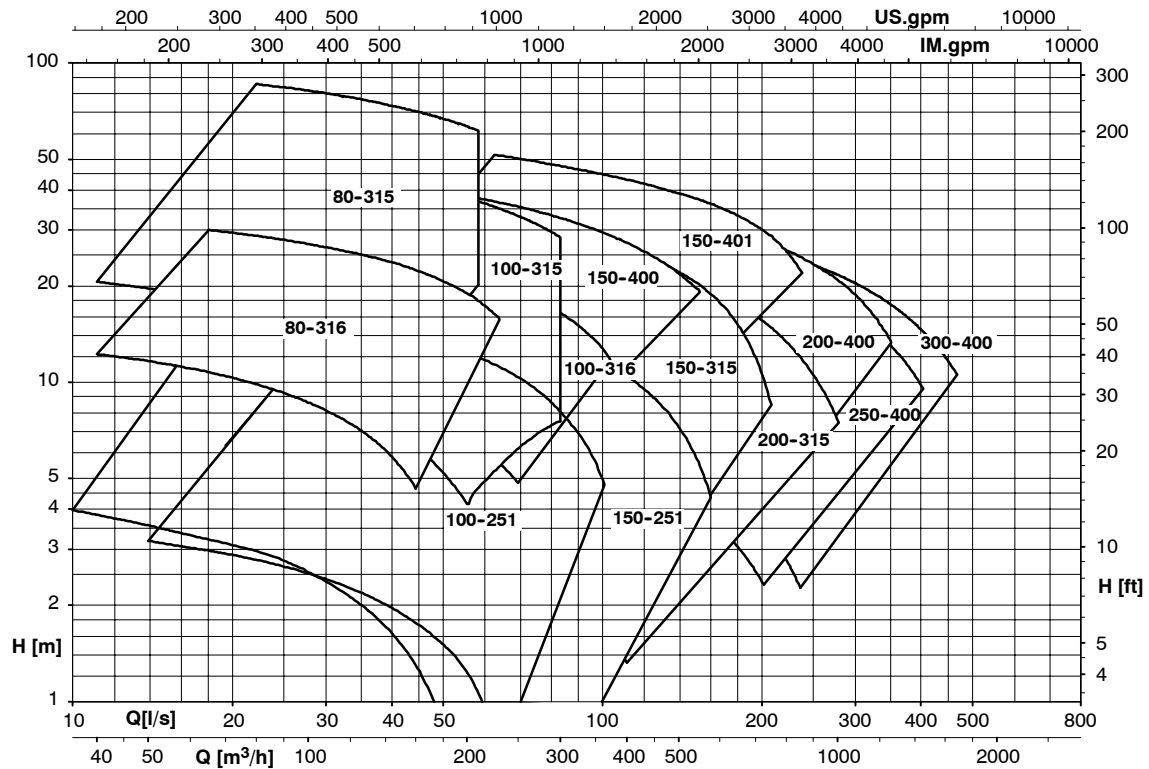
Hydraulic systems with D-, F- and E-impellers are available only as shown in the documented QH parameters.  
K-impellers can be adjusted to the required duty point.



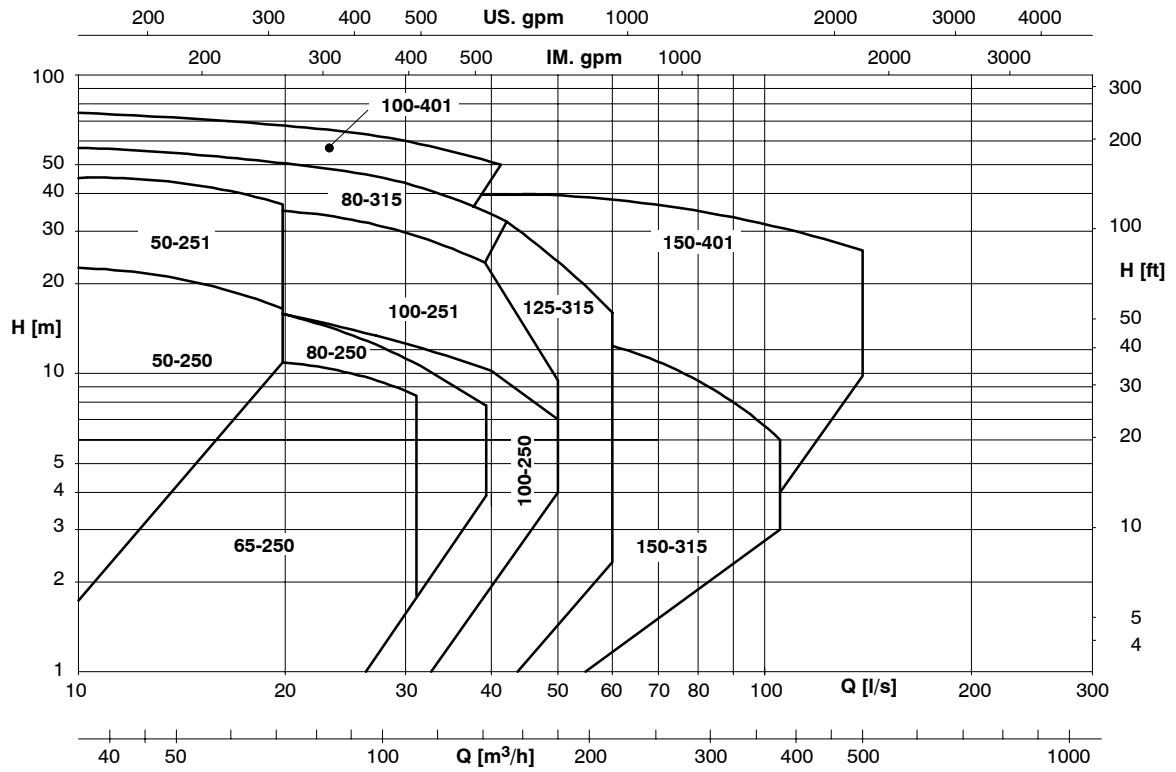
### Selection Diagrams 50 Hz Speed range for K-Impeller



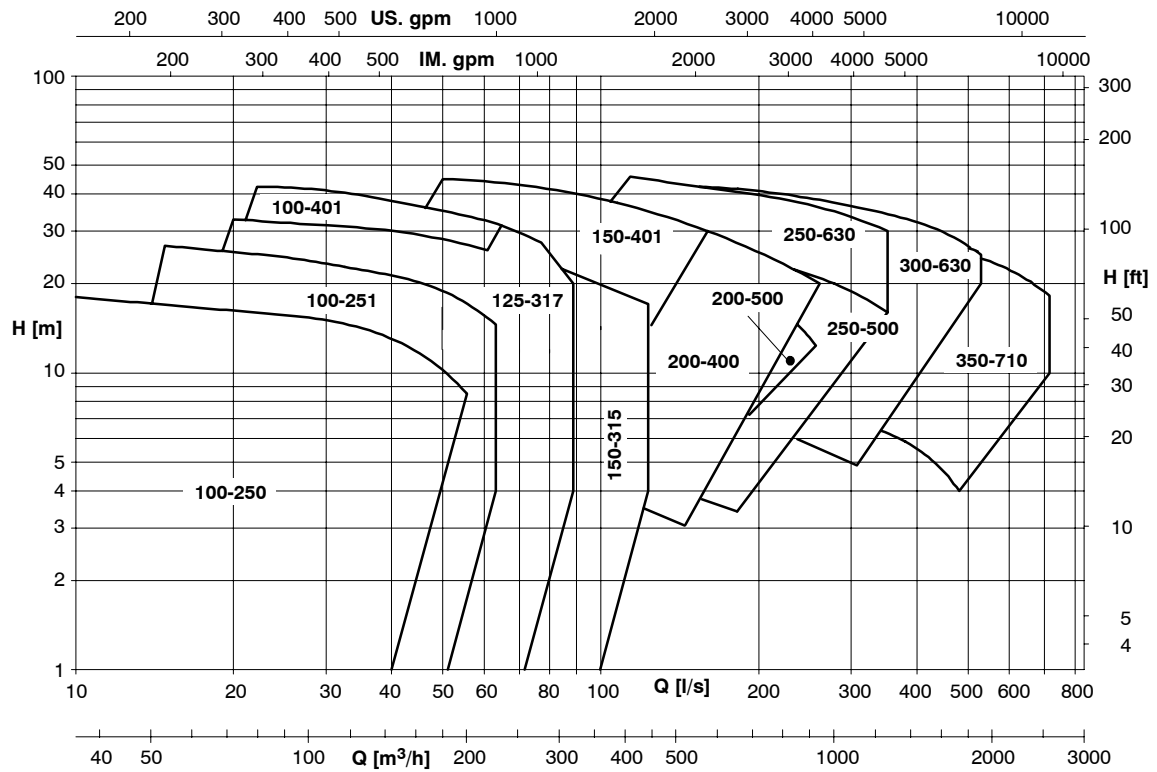
### Speed range for D-Impeller



**Speed range for F-Impeller**

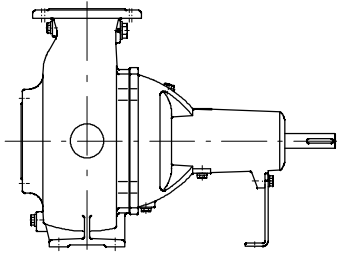


**Speed range for E-Impeller (not for Sewabloc)**



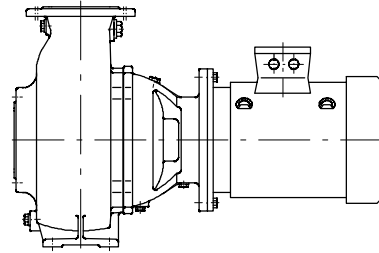
Installation Types (Selection)

Sewatec - Fig. 0



Pump with free drive shaft end

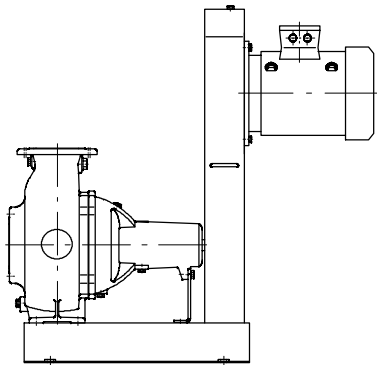
Sewabloc



Pump unit with flange-mounted motor, design B5/V1

Sewatec - 3H

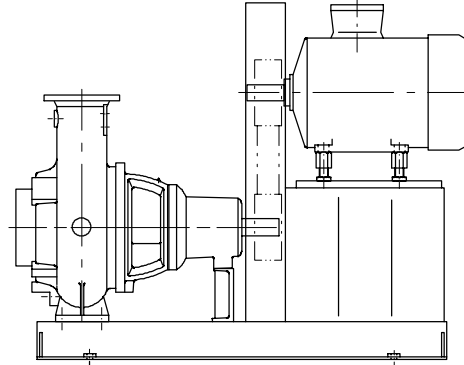
3HZ



Pump unit with baseplate, belt drive, belt guard and motor, design B5/V1  
**(up to motor size 200 L)**

Sewatec - 3H

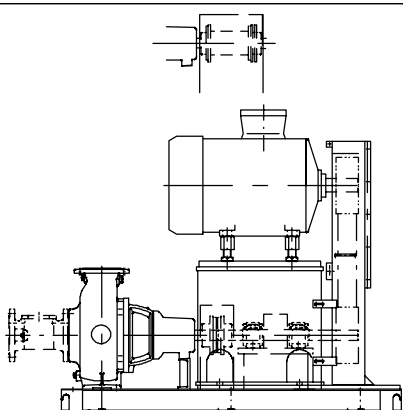
3HM



Pump unit with baseplate, belt drive, belt guard, motor support **(from motor size 225 S)** and motor, design B3 and motor height adjustment

Sewatec - 3H with indirect drive

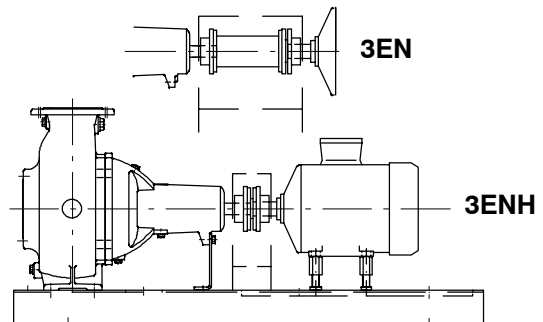
3HVG



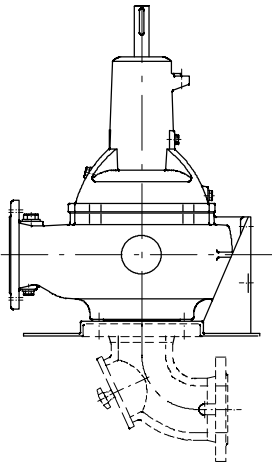
Pump unit with baseplate, coupling (also available with spacer), coupling guard, indirect drive pedestal, indirect drive, motor support, motor, design B3 and motor height adjustment facility, belt drive and belt guard.

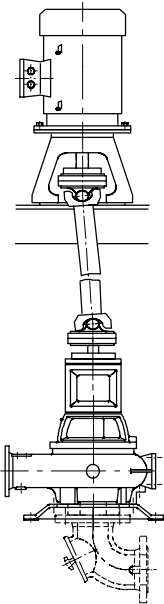
Sewatec - 3E

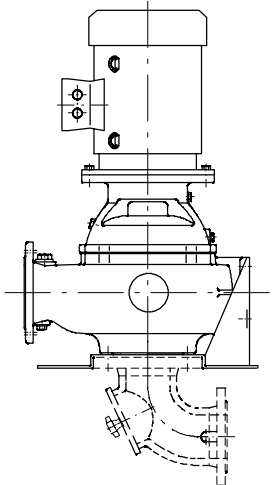
3EN - 3ENH

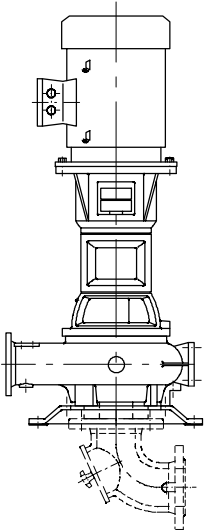


Pump unit with direct coupled motor of B3 design, baseplate, coupling (also available with spacer) coupling guard and motor height adjustment

Sewatec - vertical	V
	
<p>Vertical mounting of pump with free drive shaft end, with soleplate and suction elbow for drive through cardan shaft <b>(for bearing bracket S01, S02, S03)</b></p>	

Sewatec - vertical	VGW
	
<p>Vertical mounting of pump with free drive shaft end, with soleplate for motor and pump, support frame, motor lantern and suction elbow, for drive through cardan shaft <b>(from bearing bracket S05 onwards)</b></p>	

Sewabloc - vertical	V
	
<p>Pump unit with flange-mounted motor of B5/V1 design, placed vertically onto soleplate, with suction elbow for underfloor installation</p>	

Sewatec - vertical	VU
	
<p>Pump unit with direct coupled motor, design B5/V1, vertical installation, soleplate for pump, drive lantern, coupling, coupling guard and suction elbow, for underfloor installation <b>(from bearing bracket S05 onwards)</b></p>	

**Materials Standard Versions**

Part No.	Identification	Material Variants (DIN / ASTM)				
		G	G1	G2	GH	GC
101	Pump casing	JL 1040 / A48 Class 35 B				
135	Wear Plate <sup>4)</sup>	JL 1040 <sup>5)</sup> / A48 Class 35B <sup>5)</sup>		--		
163	Discharge cover	JL 1040 / A48 Class 35B			JN3 029 / A532 II C 15% CrMo-Hc	1.4517 / A890 CD4MCuN
183	Support foot	Steel <sup>2)</sup> / Steel <sup>2)</sup>				
210	Shaft	1.4021.05 / A276 Type 420				1.4462 / A182 F51
230	Impeller	JL 1040 / A48 Class 35B	1.4517 / A890 CD4MCuN	JN3 029 / A532 II C15% CrMo-Hc		1.4517 / A890 CD4MCuN
330	Bearing bracket	JL 1040 / A48 Class 35 B				
433	Mechanical seal	SiC/SiC (Q1Q1 PGG) / Si-Carbide/Si-Carbide				
502.01	Casing wear ring	VG 434 <sup>3)</sup> / AISI 329 <sup>3)</sup>	VG 434 (JL 1040 for F-impeller) / AISI 329 (A 48 Class 35B for F-impeller)			
452.01	Gland	} only for packed gland	JS 1030 / A536 Class 60-40-18			
454.01	Stuffing box ring		JL 1040 / A48 Class 35B			
456.01	Neck bush		PTFE / PTFE			
458.01	Lantern ring		1.4021.05 / A276 Type 420			
524.01	Shaft protection sleeve					
914	Impeller screw	Stainless steel <sup>1)</sup> / Stainless steel <sup>1)</sup>		Stainless steel / Stainless steel		
902/920	Nuts and bolts					
var.	Screwed plug	Steel / Steel				
var.	Seals and gaskets	NBR / NBR				

- 1) beginning with bearing bracket S05: CK 35N / A 29 Gr.1035  
2) beginning with bearing bracket S05: JL 1040 / A 48 Class 35 B  
3) for F-impeller and beginning with 100-401: JL 1040 / A 48 Class 35 B  
for E100-250, E100-251, E100-401, E125-317, E150-315, E150-401, E200-315, E200-400: JN3 029 / A532 IIC15% CrMo-Hc  
4) only E200-500, E250-500, E250-630, E300-630, E350-710  
5) for D-impeller optional: JN3 029 / A532 II C15% CrMo-HC

**Material comparison**

DIN	ASTM
JL 1040 (GG-25)	A48 Class 35 B
JS 1030 (GGG-40)	A536 Class 60-40-18
JN3 029 (0.9635)	A532 II C 15 % CrMo-Hc
1.4517	A890 CD4MCuN
1.4021	A276 Type 420
1.4401	A276 Type 316
1.4462	A182 F51

DIN	ASTM
1.4571	A276 Type 316 Ti
C45N	A576 Gr. 1045
C 35E	A29 Gr. 1035
ST TZN	galv. steel
NBR	NBR
FPM	FKM

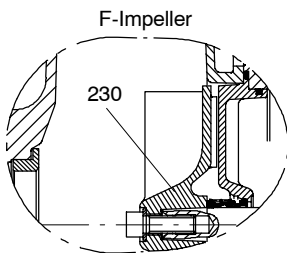
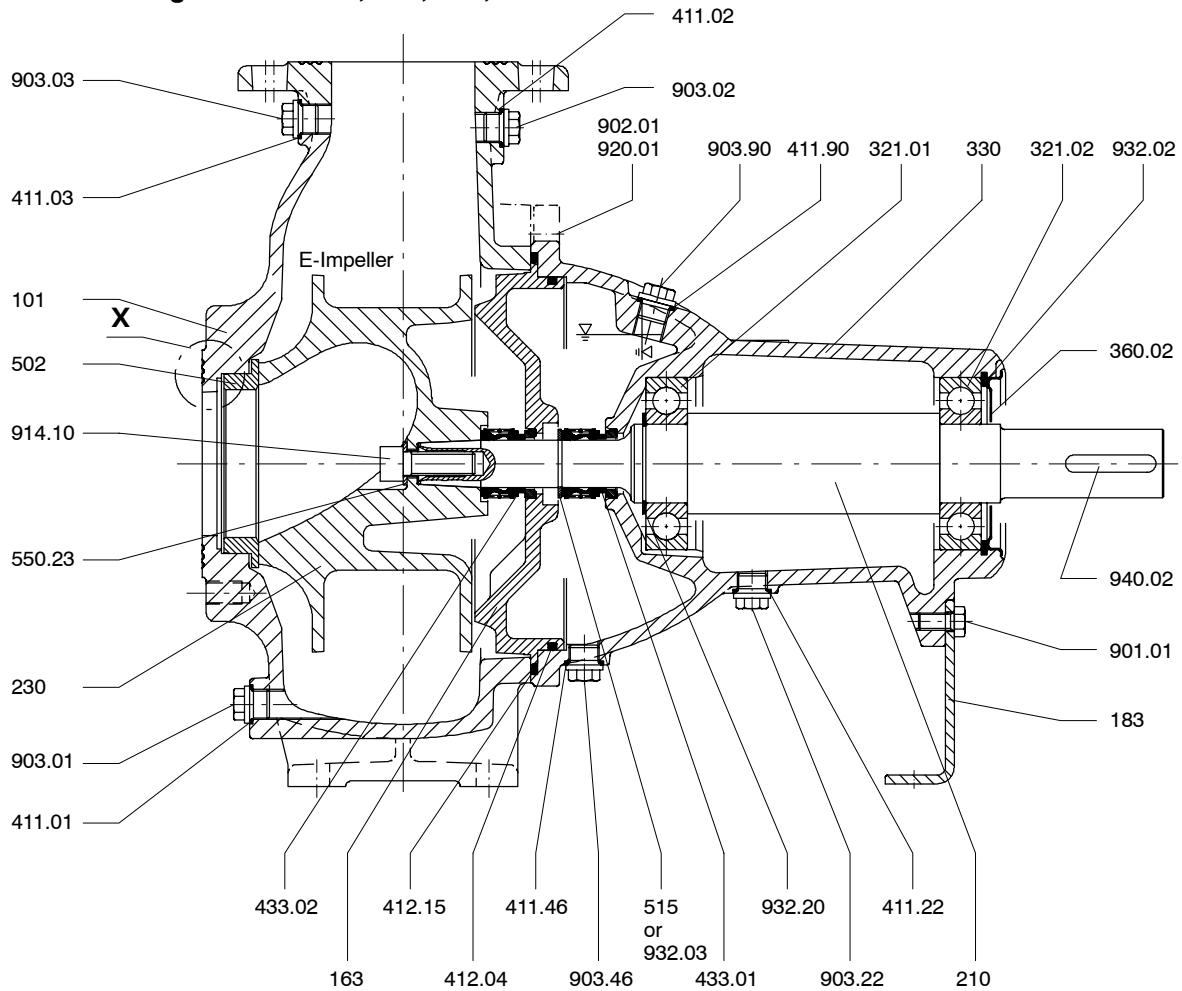
**Materials - Information**

<b>Cast Iron</b> <b>JL 1040 (GG-25)</b> Lamellar Graphite Cast Iron	<b>Duplex Steel</b> Cast Stainless Steel (1.4517 or a technically equivalent material)	<b>Wear resistant White Iron</b> (JN3 029 or a technically equivalent material)
<p>This graphited cast iron to DIN 1691 is mostly used in the pumping of municipal sewage, sludges and rain- or surface water. Suitable for neutral, slightly aggressive media and media unlikely to cause excessive wear.  The pH value of the pumped medium should be <math>\geq 6.5</math>, sand content <math>\leq 0.5</math> g/l.</p>	<p>The resistance to pitting of this ferritic-austenitic stainless cast steel makes it particularly suitable to pump sewage containing substantial amounts of chlorides and acids or sea- and brackish water. Its good chemical resistance, even against sewage containing phosphorus and sulphuric acid, has ensured its wide application in the chemical and process industries. Pumps made from duplex steel have been used very successfully to pump brine, chemical effluents (pH 1 - 12), foul water and seepage from waste disposal sites.</p>	<p>A wear resistant white iron for highly abrasive media, such as liquids containing sand, ashes or scale. Its hardness is approximately 61.5 to 68 Rockwell and therefore higher than hardened chromium steel. The alloyed cast iron of chromium- molybdenum has a significantly higher resistance to wear than cast iron JL 1040 (GG-25) or other cast materials.</p>

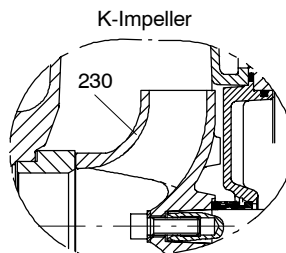
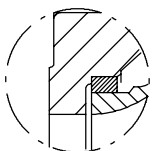


### General Assembly Drawing with List of Components

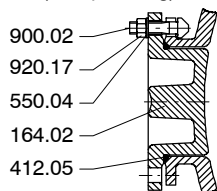
#### Sewatec - Bearing brackets S01, S02, S03, S04



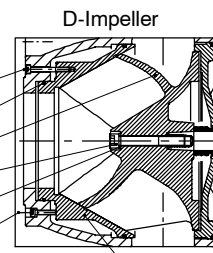
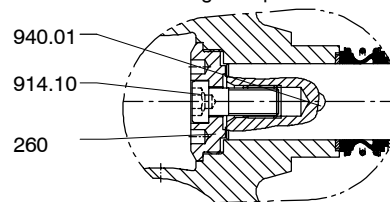
**X**  
for S04



Inspection hole  
(Pump casing)



Fastening of impeller for S04



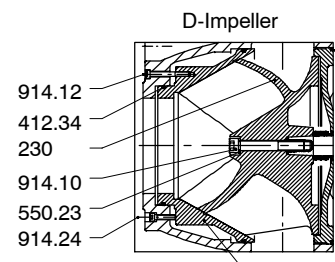
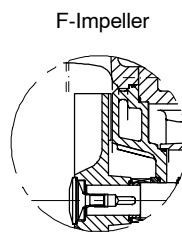
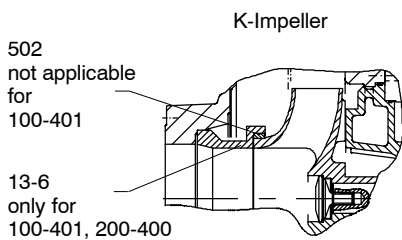
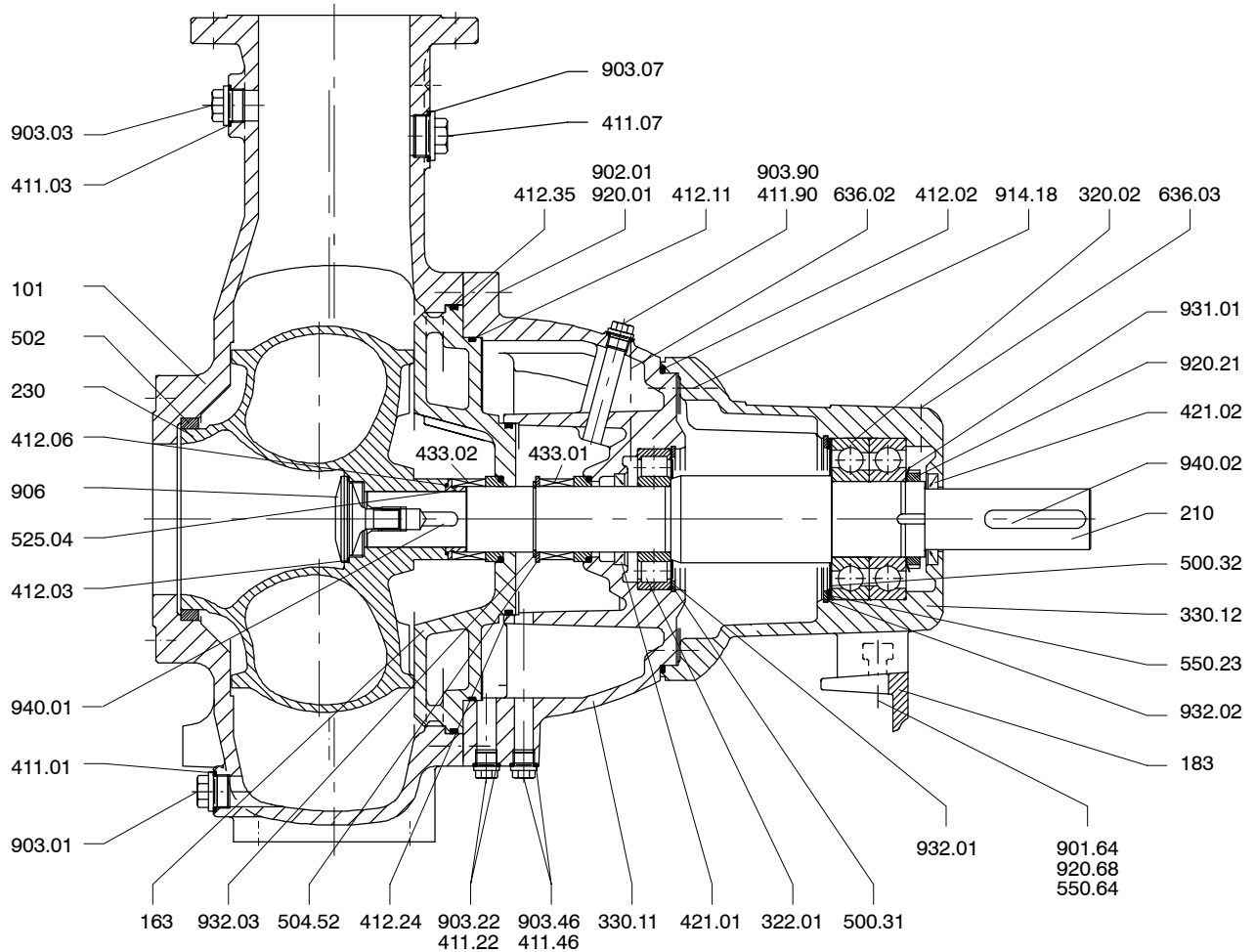
135  
Wear plate

- 914.12
- 412.34
- 230
- 914.10
- 550.23
- 914.24

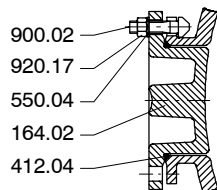
Part No.	Description	Part No.	Description	Part No.	Description
101	Pump casing	360	Bearing cover	901	Hex. head bolt
163	Discharge cover	411	Joint ring	902	Stud
183	Support foot	412	O-ring	903	Screwed plug
210	Shaft	433	Mechanical seal	914	Hex. socket head cap screw
230	Impeller	502	Casing wear ring	920	Nut
321	Radial ball bearing	515	Taper lock ring	932	Circlip
330	Bearing bracket	550	Disc	940	Key

### General Assembly Drawing with List of Components

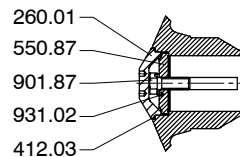
#### Sewatec - Bearing brackets S05, S06, S07, S08



Inspection hole (Pump casing)



Impeller fastening from bearing bracket S06, except for pump size 500-632

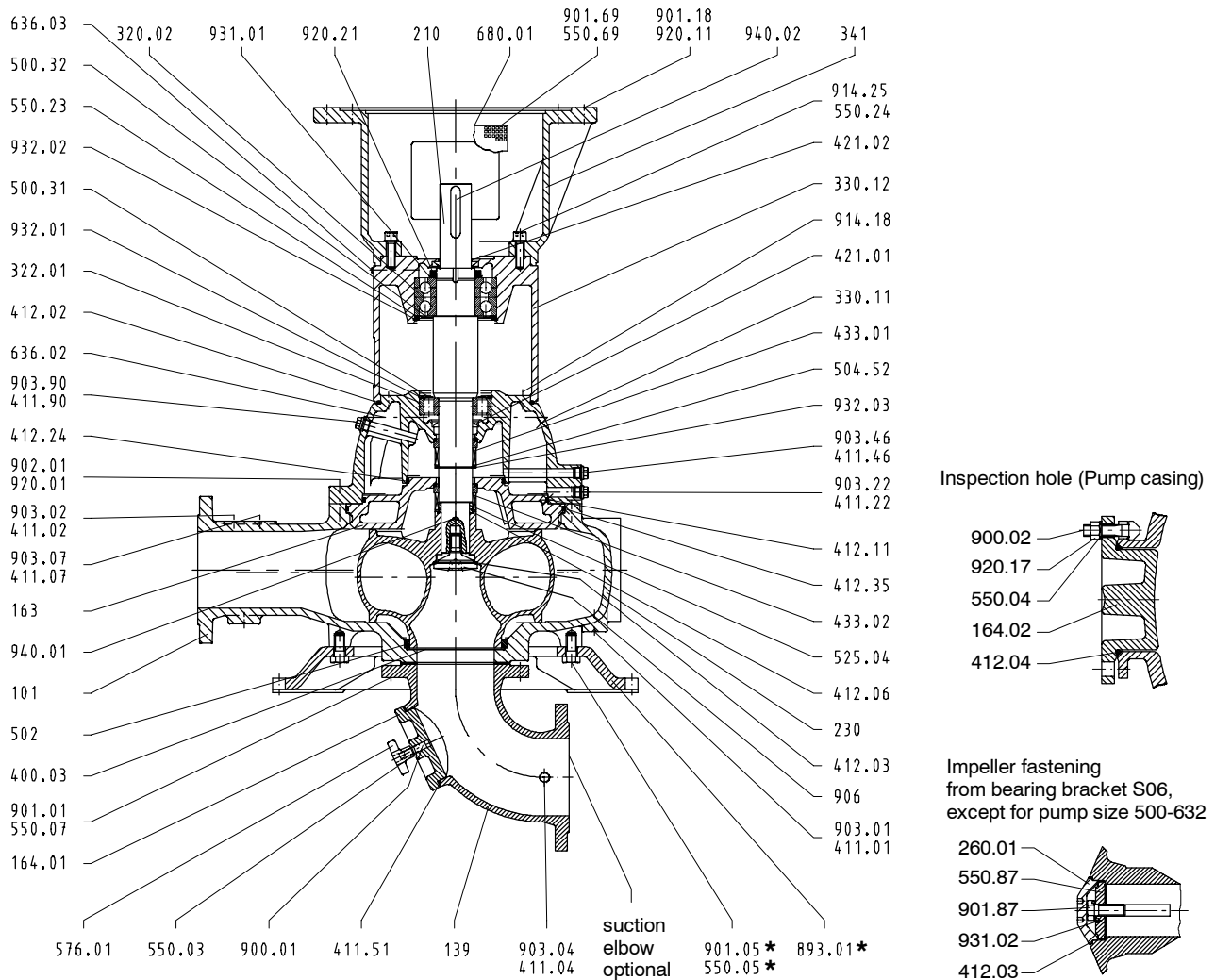


135 Wear plate

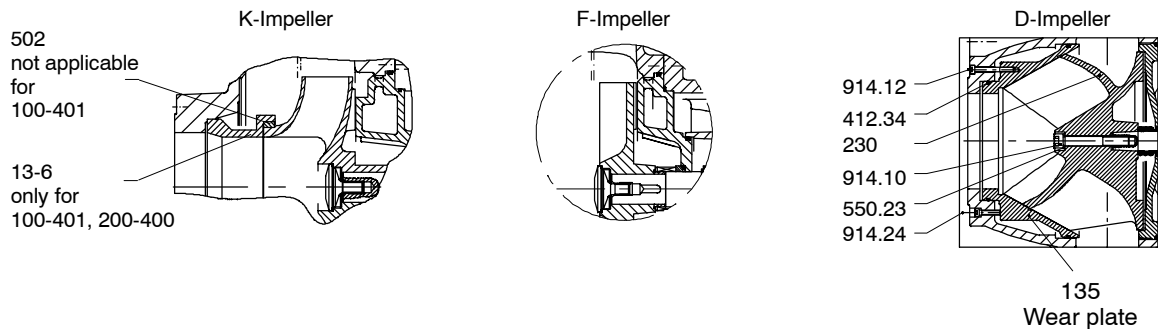
Part No.	Description	Part No.	Description	Part No.	Description
101	Pump casing	330	Bearing bracket	902	Stud
163	Discharge cover	411	Joint ring	903	Screwed plug
183	Support foot	412	O-ring	906	Impeller screw
210	Shaft	433	Mechanical seal	914	Hex. socket head cap screw
230	Impeller	502	Casing wear ring	920	Nut
320	Angular contact ball bearing	550	Disc	932	Circlip
322	Cyl. roller bearing	901	Hex. head bolt	940	Key

### General Assembly Drawing with List of Components

#### Sewatec - vertical - Underfloor Installation - Bearing brackets S05, S06, S07, S08

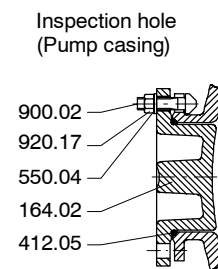
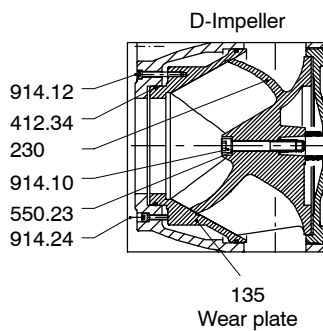
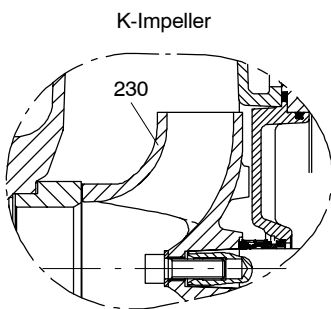
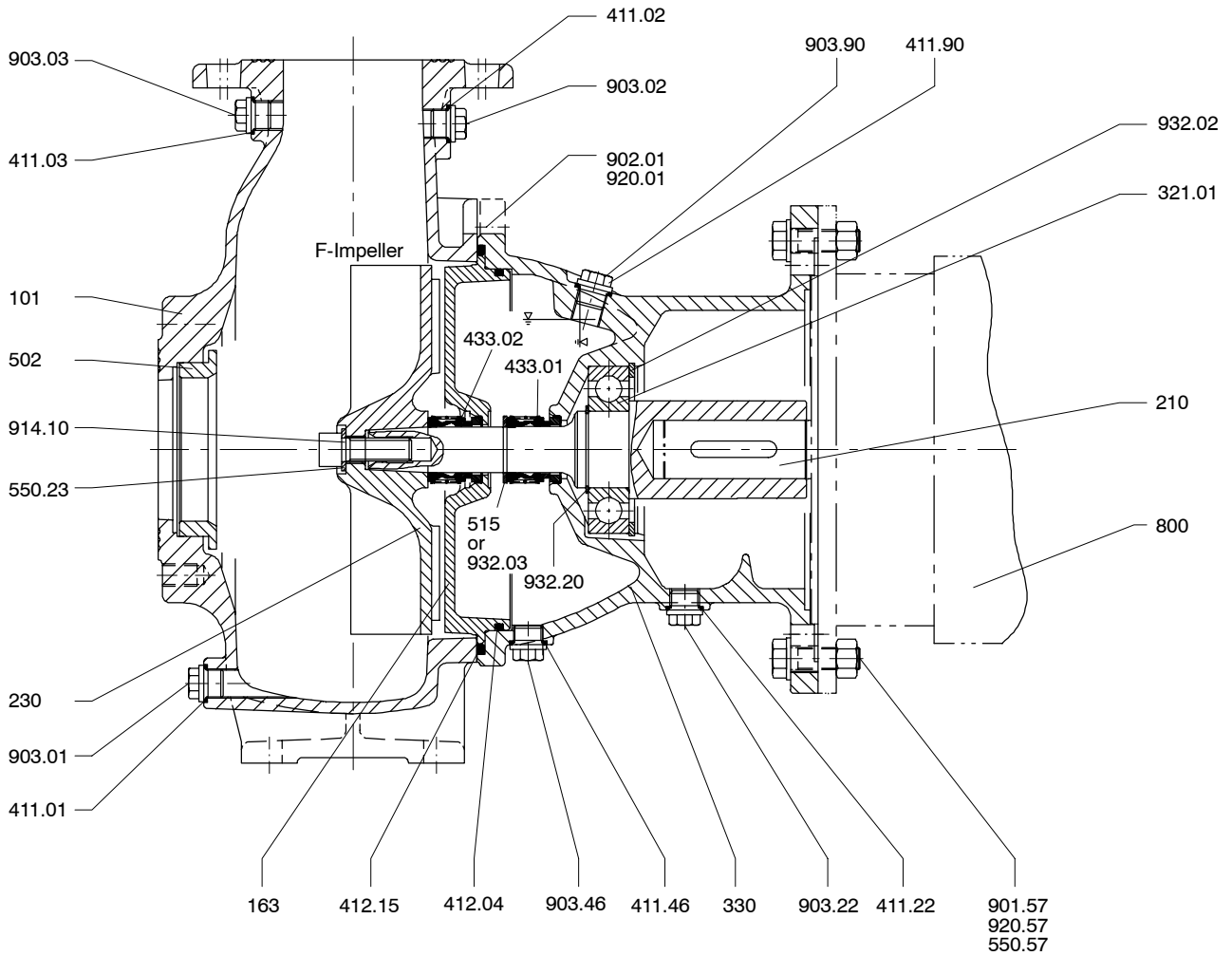


\* Applicable only to Sewatec 100-401, 150-401, K 150-500, 200-330, K 200-500



Part No.	Description	Part No.	Description	Part No.	Description
101	Pump casing	330	Bearing bracket	902	Stud
163	Discharge cover	411	Joint ring	903	Screwed plug
183	Support foot	412	O-ring	906	Impeller screw
210	Shaft	433	Mechanical seal	914	Hex. socket head cap screw
230	Impeller	502	Casing wear ring	920	Nut
320	Angular contact ball bearing	550	Disc	932	Circlip
322	Cyl. roller bearing	901	Hex. head bolt	940	Key

### General Assembly Drawing with List of Components Sewabloc



Part No.	Description	Part No.	Description	Part No.	Description
101	Pump casing	411	Joint ring	901	Hex. head bolt
163	Discharge cover	412	O-ring	902	Stud
210	Shaft	433	Mechanical seal	903	Screwed plug
230	Impeller	502	Casing wear ring	920	Nut
321	Radial ball bearing	550	Disc	932	Circlip
330	Bearing bracket	800	Motor		

