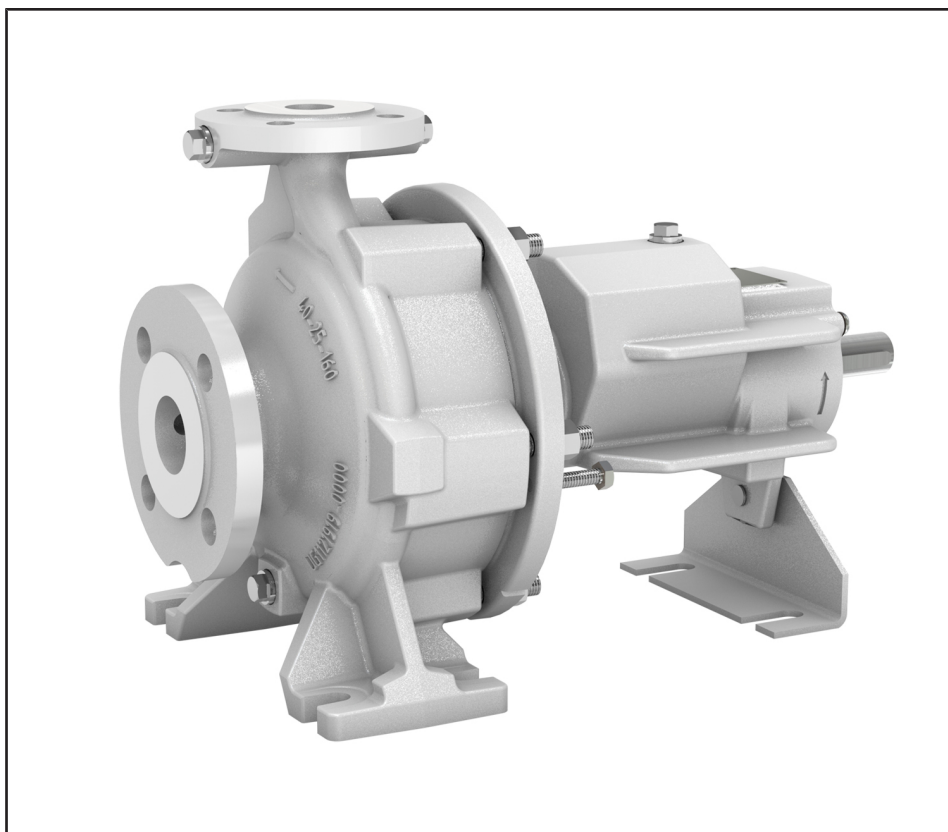


Thermal Oil / Hot Water Pump

Etanorm SYT

SI Units and Imperial Units

Type Series Booklet



Legal information/Copyright

Type Series Booklet Etanorm SYT

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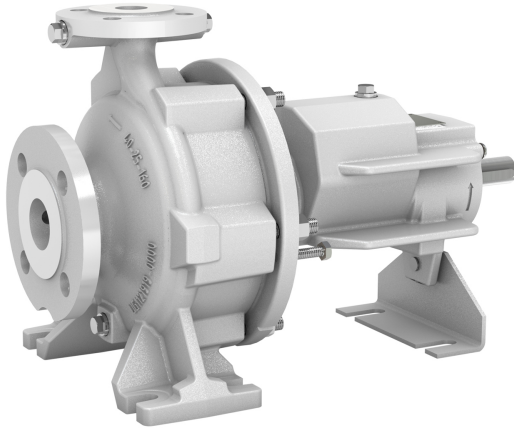
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Centrifugal Pumps with Shaft Seal

Thermal Oil Pumps / Hot Water Pumps

Etanorm SYT



Main applications

- Heat transfer systems
- Hot water circulation

Fluids handled

- Hot water
- Thermal oil

Further information on fluids handled

Overview of fluids handled

Operating data

Table 1: Operating data (SI units)

Characteristic		Value	
		50 Hz	60 Hz
Flow rate	Q [m³/h]	≤ 625	≤ 754
Head	H [m]	≤ 102	≤ 100
Fluid temperature	T [°C]	≥ -30	≥ -30
Thermal oil		≤ +350	≤ +350
Fluid temperature		≤ +180	≤ +180
High-temperature hot water			
Operating pressure	p [bar]	≤ 16	≤ 16

Table 2: Operating data (imperial units)

Characteristic		Value	
		50 Hz	60 Hz
Flow rate	Q [gpm]	≤ 2751.79	≤ 3319.76
Head	H [ft]	≤ 334.65	≤ 328.08
Fluid temperature	T [°F]	≥ -22	≥ -22
Thermal oil		≤ +662	≤ +662
Fluid temperature		≤ +356	≤ +356
High-temperature hot water			
Operating pressure	p [psi]	≤ 232.06	≤ 232.06

Table 3: Operating properties in marine applications to DNV GL (SI units)¹⁾²⁾³⁾

Characteristic		Value		
		Class I ⁴⁾	Class II ⁵⁾	Class III ⁶⁾
Steam				
Design pressure	p [bar]	> 16	≤ 16	≤ 7
Design temperature	T [°C]	> 300	≤ 300	≤ 170
Thermal oil				
Design pressure	p [bar]	> 16	≤ 16	≤ 7
Design temperature	T [°C]	> 300	≤ 300	≤ 150
Fuel oil, lubricating oil, combustible hydraulic oil				
Design pressure	p [bar]	> 16	≤ 16	≤ 7
Design temperature	T [°C]	> 150	≤ 150	≤ 60
Other fluids ⁷⁾				
Design pressure	p [bar]	> 40	≤ 40	≤ 16
Design temperature	T [°C]	> 300	≤ 300	≤ 200

Table 4: Operating properties in marine applications to DNV GL (imperial units)¹⁾²⁾³⁾

Characteristic		Value		
		Class I ⁴⁾	Class II ⁵⁾	Class III ⁶⁾
Steam				
Design pressure	p [psi]	> 232.06	≤ 232.06	≤ 101.53
Design temperature	T [°F]	> 572	≤ 572	≤ 338
Thermal oil				
Design pressure	p [psi]	> 232.06	≤ 232.06	≤ 101.53
Design temperature	T [°F]	> 572	≤ 572	≤ 302
Fuel oil, lubricating oil, combustible hydraulic oil				
Design pressure	p [psi]	> 232.06	≤ 232.06	≤ 101.53
Design temperature	T [°F]	> 302	≤ 302	≤ 140
Other fluids ⁷⁾				
Design pressure	p [psi]	> 580.15	≤ 580.15	≤ 232.06
Design temperature	T [°F]	> 572	≤ 572	≤ 392

- 1 Loading pipes for flammable liquids on offshore supply vessels belong to the same piping class as the fuel. Class II piping suffices outside of category A engine rooms.
- 2 Pipes for toxic or corrosive fluids belong to piping class I.
- 3 Loading pipes for chemicals or liquefied gases are not specified in the table.
- 4 At least one condition must be met for class I piping (design pressure or design temperature).
- 5 Both conditions must be met for class II piping (design pressure and design temperature).
- 6 Both conditions must be met for class III piping (design pressure and design temperature).
- 7 Cargo oil pipes on oil tankers and open pipe outlets (drains, overflows, ventilation, boiler drain pipes, etc.), irrespective of pressure and temperature, belong to class III.

Design details

Design

- Volute casing pump
- Horizontal installation
- Back pull-out design
- Single-stage
- Dimensions and ratings to EN 733

Pump casing

- Radially split volute casing
- Volute casing with integrally cast pump feet
- Replaceable casing wear rings

Shaft seal

- KSB single mechanical seal
- KSB double mechanical seal
- To EN 12756

Impeller type

- Closed radial impeller with multiply curved vanes

Bearings

- Various application-oriented bearings (⇒ Page 9)

Drive end:

- Grease-packed deep groove ball bearing

Pump end:

- Carbon bearing / SiC/SiC bearing lubricated by fluid handled

Designation

Table 5: Designation example

Position																																				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37
E	T	N	Y	O	5	O	-	O	3	2	-	1	2	5	1	S	G	S	D	B	O	8	L	D	2	O	O	7	5	2	B	P	D	2	E	
See name plate and data sheet																											See data sheet									

Table 6: Designation key

Position	Code	Description
1-4	Pump type	
	ETNY	Etanorm SYT
5-16	Size, e.g.	
	050	Nominal suction nozzle diameter [mm]
	032	Nominal discharge nozzle diameter [mm]
	1251	Nominal impeller diameter [mm]
17	Pump casing material	
	E	Cast steel GP240GH+N / A216 Gr. WCB
	S	Nodular cast iron EN-GJS-400-15
18	Impeller material	
	C	Stainless steel 1.4408 / A743 CF8M
	G	Cast iron EN-GJL-250 / A48 Cl. 35B
19	Design	
	D	DNV
	S	Standard
	X	Non-standard (BT3D, BT3)
	Y	Marine version (e.g. to BV or ABS)
20	Casing cover	
	D	Casing cover
21	Shaft seal type	
	B	Dead-end arrangement
22-23	Seal code, single mechanical seal	
	08	AQ1V7GG NU033MO-4EYS
	66	Q7Q7EGG NU033MO-4EYS
	Seal code, double mechanical seal in tandem arrangement	
	25	AQ1V7GG KU033MO-4EYT
	AQ1V7GG	KU033MO-4EYT
24	Bearing bracket	
	L	Version for heat transfer fluid, with leakage barrier
	Y	Version for heat transfer fluid
25	Scope of supply	
	A	Pump only (Fig. O)

Position	Code	Description
25	B	Pump, baseplate
	C	Pump, baseplate, coupling, coupling guard
	D	Pump, baseplate, coupling, coupling guard, motor
	E	Back pull-out unit
26	Shaft unit	
	2	Shaft unit 25, bearing bracket LS (standard)
	3	Shaft unit 35, bearing bracket LS (standard)
	5	Shaft unit 55, bearing bracket LS (standard)
27-30	Motor rating P _N [kW]	
	0075	0.75
	...	...
	1320	132.00
31	Number of motor poles	
32	Product generation	
	B	Etanorm SYT 2014
33-36	Design	
	-	Fixed speed version
	PD2	Variable speed version, with PumpDrive 2
	PD2E	Variable speed version, with PumpDrive 2 Eco

Materials

Table 7: Symbols key

Symbol	Description
X	Standard
-	Version not available / not possible

Table 8: Overview of available materials

Part No.	Description	Material	Material variant	
			SG	SC
102	Volute casing	Nodular cast iron JS1030 / 536 Gr. 60-40-18	X	X
161	Casing cover	Nodular cast iron JS1030 / A536 Gr. 60-40-18	X	X
210	Shaft	Chrome steel 1.4021 + QTHRC50	X	X
230	Impeller	Gray cast iron JL1040 / A 48 Cl. 35B	X	-
		Stainless steel 1.4408 / A743 Gr. CF8M	-	X
310	Plain bearing	Carbon KHK	X	X
		SiC / SiC	X	X
330	Bearing bracket	Nodular cast iron JS1030 / A536 Gr. 60-40-18	X	X
411.10/.15	Sealing elements	BU9593 / HDR	X	X
502.01	Casing wear ring, suction side	Gray cast iron JL1040 / CI	X	X
502.02	Casing wear ring, discharge side	Gray cast iron JL1040 / CI	X	X
902	Studs	Steel 8.8	X	X
903	Plug	Steel	X	X
920	Nut	8+A2A / 8+B633 SC1 TP3	X	X
920.95	Impeller nut	8	X	X

Coating and preservation

- Coating and preservation to KSB standard

Product benefits

- Designed to deliver reliable operation with mineral and synthetic thermal oils up to 350 °C/662 °F
- Maximum operating reliability ensured by KSB single mechanical seal and KSB double multi-spring mechanical seals in tandem arrangement as well as quench systems tailored to any application
- Safety barriers: Special contour ensures reliable removal of leakage at the mechanical seal; additional shaft seal ring, durable grease-packed bearings, confined sealing elements and effective heat barrier
- Reliable venting during pump operation thanks to patented KSB VenJet® technology
- Individual requirements are met with maximum efficiency, and operating costs are reduced: impeller trimming, variable speed operation / intelligent control by KSB frequency inverters and KSB motors up to IE5, maximum hydraulic pump efficiency and low NSPHreq
- Wide range of applications through compliance with EN PN16 and ASME, ATEX-compliant version, carbon and SiC/SiC plain bearings, various marine versions and version with fan impeller for efficient cooling
- The "cracked-joint" design of the coupling hubs enables straightforward assembly and dismantling of the coupling. The double Cardan coupling compensates shaft offset.
- Continuous leakage monitoring by innovative KSB Leakage Sensor. Predictive maintenance avoids unscheduled downtimes.
- Vibration, pressure and temperature measurement connections provided as standard. Sensor kit can be ordered together with the pump.

Product information

Product information as per Regulation No. 1907/2006 (REACH)

For information as per European chemicals regulation (EC) No. 1907/2006 (REACH) see <https://www.ksb.com/en-global/company/corporate-responsibility/reach>.

Acceptance tests and warranty

Materials testing:

- Test report 2.2 on request

Final inspection:

- Inspection certificate 3.1 to EN 10204 on request

Hydraulic test against surcharge

- Duty point to ISO 9906/2B
- NPSH test

 Other inspections/tests on request

Warranty:

- Warranties are given within the scope of the valid terms and conditions of sale and delivery.

Overview of product features / selection tables

Overview of variants

 Other designs on request

Table 9: Overview of variants (SI units)

Variant	102 / Volute casing	230 / Impeller	Mechanical seal	T	Main applications									
				[°C]	Chemical industry / pharmaceutical industry	Plastic processing	Timber industry / paper industry / cardboard industry	Soap industry / laundry agent industry	Food industry	Textile industry	Mineral oil industry	Bitumen industry / tar processing industry	Metal-processing industry	Aluminium industry
SG08	Nodular cast iron EN-GJS-400-15/536 Gr. 60-40-18	Gray cast iron EN-GJL-250/A48 Cl. 35B	AQ1V7GG	$\geq -30 - \leq +180^{(8)} / 350^{(9)}$	X	X	X	X	X	X	X	X	X	X
SC08	Nodular cast iron EN-GJS-400-15/536 Gr. 60-40-18	Chrome steel 1.4408/A743 Gr. CF8M	AQ1V7GG	$\geq -30 - \leq +180^{(8)} / 350^{(9)}$	X	X	X	X	X	X	X	X	X	X

Table 10: Overview of variants (imperial units)

Variant	102 / Volute casing	230 / Impeller	Mechanical seal	T	Main applications									
				[°F]	Chemical industry / pharmaceutical industry	Plastic processing	Timber industry / paper industry / cardboard industry	Soap industry / laundry agent industry	Food industry	Textile industry	Mineral oil industry	Bitumen industry / tar processing industry	Metal-processing industry	Aluminium industry
SG08	Nodular cast iron EN-GJS-400-15/536 Gr. 60-40-18	Gray cast iron EN-GJL-250/A48 Cl. 35B	AQ1V7GG	$\geq -22 - \leq +356^{(8)} / +662^{(9)}$	X	X	X	X	X	X	X	X	X	X
SC08	Nodular cast iron EN-GJS-400-15/536 Gr. 60-40-18	Chrome steel 1.4408/A743 Gr. CF8M	AQ1V7GG	$\geq -22 - \leq +356^{(8)} / +662^{(9)}$	X	X	X	X	X	X	X	X	X	X

Overview of fluids handled

Table 11: Symbols key

Symbol	Description
X	Standard
-	Version not available / not possible

⁸ Hot water

⁹ Thermal oil

Table 12: Excerpt from the overview of fluids handled with associated material variants (SI units)

Fluid handled	Application limits	Materials		Shaft seal		
		Casing/impeller				
		Nodular cast iron / gray cast iron	Nodular cast iron / stainless steel	Single mechanical seal AQ1V7GG	Single mechanical seal Q7Q7EGG	Double mechanical seal Tandem AQ1V7GG / AQ1V7GG
		SG	SC	Code 08	Code 66	Code 25
High-temperature hot water ¹⁰⁾	t ≤ 180 °C	X	X	X	-	-
	p ≤ 16 bar					
Water/glycol mixture	t ≤ 180 °C	-	-	-	X	-
	p ≤ 16 bar					
Thermal oil on mineral oil basis	t ≥ -30 to +350 °C	X	X	X	-	X
	p ≤ 16 bar					
Thermal oil on synthetic basis, vaporization pressure ≤ 1 bar at operating temperature	t ≥ -30 to +350 °C	X	X	X	-	X
	p ≤ 16 bar					
Thermal oil on synthetic basis, vaporization pressure ≥ 1 bar at operating temperature	t ≥ -30 to +350 °C	X	X	-	-	X
	p ≤ 16 bar					

Table 13: Excerpt from the overview of fluids handled with associated material variants (imperial units)

Fluid handled	Application limits	Materials		Shaft seal		
		Casing/impeller				
		Nodular cast iron / gray cast iron	Nodular cast iron / stainless steel	Single mechanical seal AQ1V7GG	Single mechanical seal Q7Q7EGG	Double mechanical seal Tandem AQ1V7GG / AQ1V7GG
		SG	SC	Code 08	Code 66	Code 25
High-temperature hot water ¹⁰⁾	t ≤ 356 °F	X	X	X	-	-
	p ≤ 232.06 psi					
Water/glycol mixture	t ≤ 356 °F	-	-	-	X	-
	p ≤ 232.06 psi					
Thermal oil on mineral oil basis	t ≥ -22 to +662 °F	X	X	X	-	X
	p ≤ 232.06 psi					
Thermal oil on synthetic basis, vaporization pressure ≤ 14.50 psi at operating temperature	t ≥ -22 to +662 °F	X	X	X	-	X
	p ≤ 232.06 psi					
Thermal oil on synthetic basis, vaporisation pressure ≥ 14.50 psi at operating temperature	t ≥ -22 to +662 °F	X	X	-	-	X
	p ≤ 232.06 psi					

Bearings

Bearings used

Table 14: Overview

Version	Bearing bracket	Pump end	Drive end
Standard plain bearing (lubricated by fluid handled)	WS_25_LS	Carbon (KHK)	-
	WS_35_LS	Carbon (KHK)	-
	WS_55_LS	Carbon (KHK)	-

¹⁰⁾ Low-salt and fully desalinated water to VdTÜV technical instruction leaflet / AGFW technical instruction leaflet TCN 1466 (VdTÜV) 5/15 (AGFW), edition 02.89

Version	Bearing bracket	Pump end	Drive end
Optional plain bearing (lubricated by fluid handled)	WS_25_LS	SiC / SiC	-
	WS_35_LS	SiC / SiC	-
	WS_55_LS	SiC / SiC	-
Rolling element bearing (grease-packed for life, Klüber Asonic HQ 72-102)	WS_25_LS	-	DIN 625
	WS_35_LS	-	DIN 625
	WS_55_LS	-	DIN 625

Pressure limits and temperature limits

Table 15: Test pressure limits and temperature limits depending on the material (SI units)

Material	Fluid temperature	Test pressure ¹¹⁾
	[°C]	[bar]
S	-30 to +350	≤ 25

Table 16: Test pressure limits and temperature limits depending on the material (imperial units)

Material	Fluid temperature	Test pressure ¹¹⁾
	[°F]	[psi]
S	-22 to +662	≤ 362.6

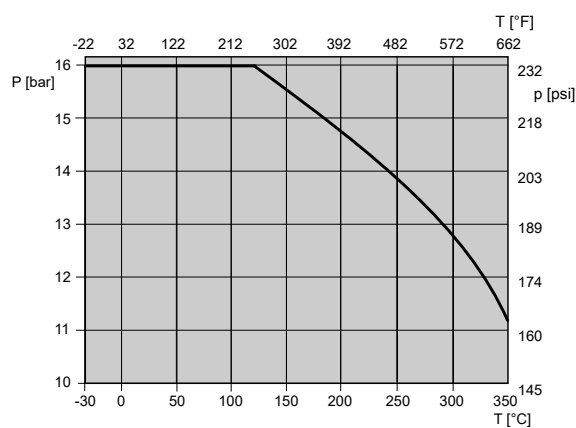


Fig. 1: Operating pressure limits and temperature limits

¹¹⁾ The casing components are checked for leakage by means of internal pressure tests to AN 1897/75-03D00 with water.

Technical data
Etanorm SYT
Table 17: Technical data (SI units)

Size	Shaft unit	Impeller				Speed limit	
		Outlet	Inlet	Nominal diameter		Max.	Min.
			Diameter	Max.	Min.		
		[mm]	[rpm]				
040-025-160	25	6.0	45.2	169	130	3600	800
040-025-200	25	6.0	45.2	209	160	3600	800
050-032-125.1	25	6.6	52.4	139	104	3600	800
050-032-160.1	25	5.7	52.7	170	136	4400	800
050-032-200.1	25	5.6	54.0	204	170	3800	800
050-032-160	25	8.5	60.6	174	136	3600	800
050-032-200	25	7.0	62.9	209	170	3700	800
050-032-250	25	7.5	62.6	261	209	3600	800
065-040-160	25	13.0	70.0	174	128	4400	800
065-040-200	25	9.4	69.4	209	165	3700	800
065-040-250	25	8.4	74.1	260	200	3600	800
065-040-315	35	7.5	75.3	326	260	2300	800
065-050-160	25	16.9	86.9	174	128	4400	800
065-050-200	25	13.8	83.1	219	170	3600	800
065-050-250	25	10.5	84.0	260	215	3600	800
065-050-315	35	10.0	87.0	323	265	2400	800
080-065-160	25	21.0	92.0	174	132	3900	800
080-065-200	25	17.0	99.7	219	175	3,600	800
080-065-250	35	15.1	101.0	260	215	3600	800
080-065-315	35	13.7	108.2	320	260	1900	800
100-080-160	25	31.6	124.0	174	138	3600	800
100-080-200	35	24.5	115.0	219	180	3600	800
100-080-250	35	19.0	115.0	269	215	3600	800
100-080-315	35	18.7	115.6	334	269	1900	800
125-100-160	35	37.6	135.0	185	162	3600	800
125-100-200	35	32.5	142.0	219	179	3600	800
125-100-250	35	27.0	145.0	269	210	3600	800
125-100-315	35	23.0	142.0	334	270	1900	800
150-125-200	35	40.7	159.0	224	182	3600	800
150-125-250	35	37.0	162.4	269	218	2000	800
150-125-315	55	30.9	162.0	334	270	1900	800
150-125-400	55	25.9	162.4	419	330	1800	800
200-150-315	55	39.7	191.5	334	264	1800	800
200-150-400	55	33.0	191.4	419	330	1800	800

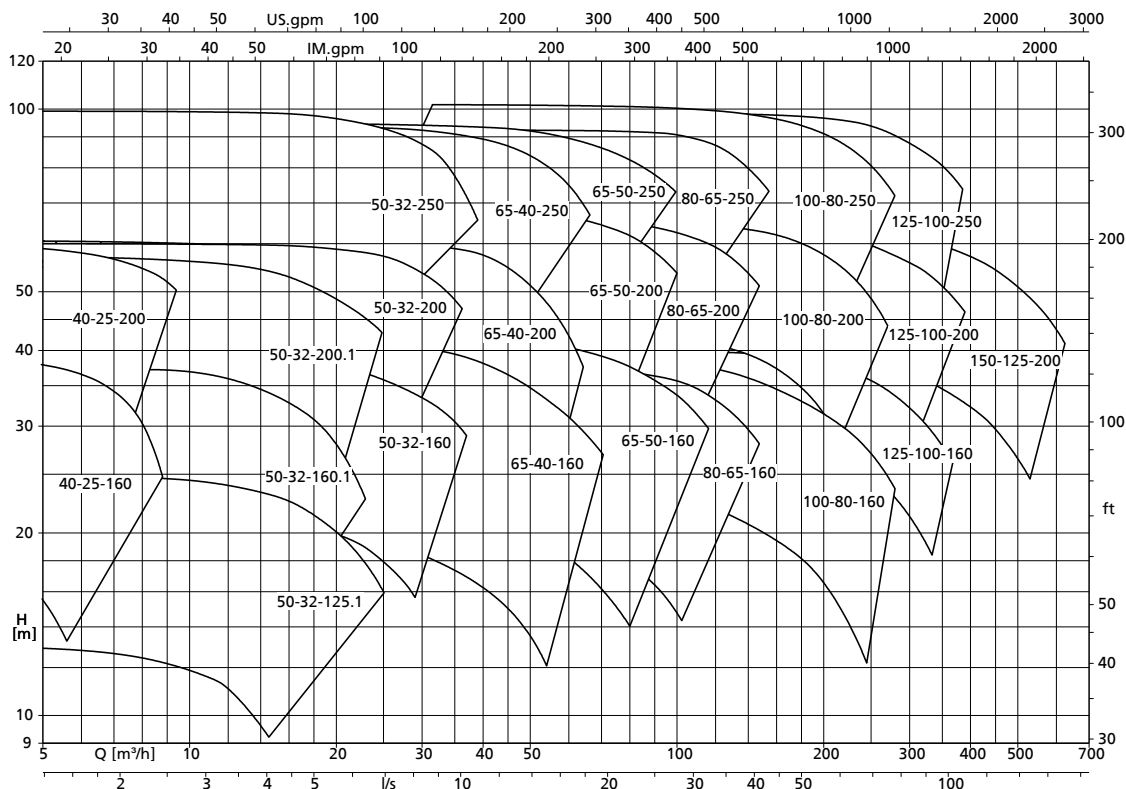
Table 18: Technical data (imperial units)

Size	Shaft unit	Impeller				Speed limit	
		Outlet	Inlet	Nominal diameter		Max.	Min.
			Diameter	Max.	Min.		
		[inch]				[rpm]	
040-025-160	25	0.24	1.78	6.65	5.12	3600	800
040-025-200	25	0.24	1.78	8.23	6.30	3600	800
050-032-125.1	25	0.26	2.06	5.47	4.09	3600	800
050-032-160.1	25	0.22	2.07	6.69	5.35	4400	800
050-032-200.1	25	0.22	2.13	8.03	6.69	3800	800
050-032-160	25	0.33	2.39	6.85	5.35	3600	800
050-032-200	25	0.28	2.48	8.23	6.69	3700	800
050-032-250	25	0.30	2.46	10.28	8.23	3600	800
065-040-160	25	0.51	2.76	6.85	5.04	4400	800
065-040-200	25	0.37	2.73	8.23	6.50	3700	800
065-040-250	25	0.33	2.92	10.24	7.87	3600	800
065-040-315	35	0.30	2.96	12.83	10.24	2300	800
065-050-160	25	0.67	3.42	6.85	5.04	4400	800

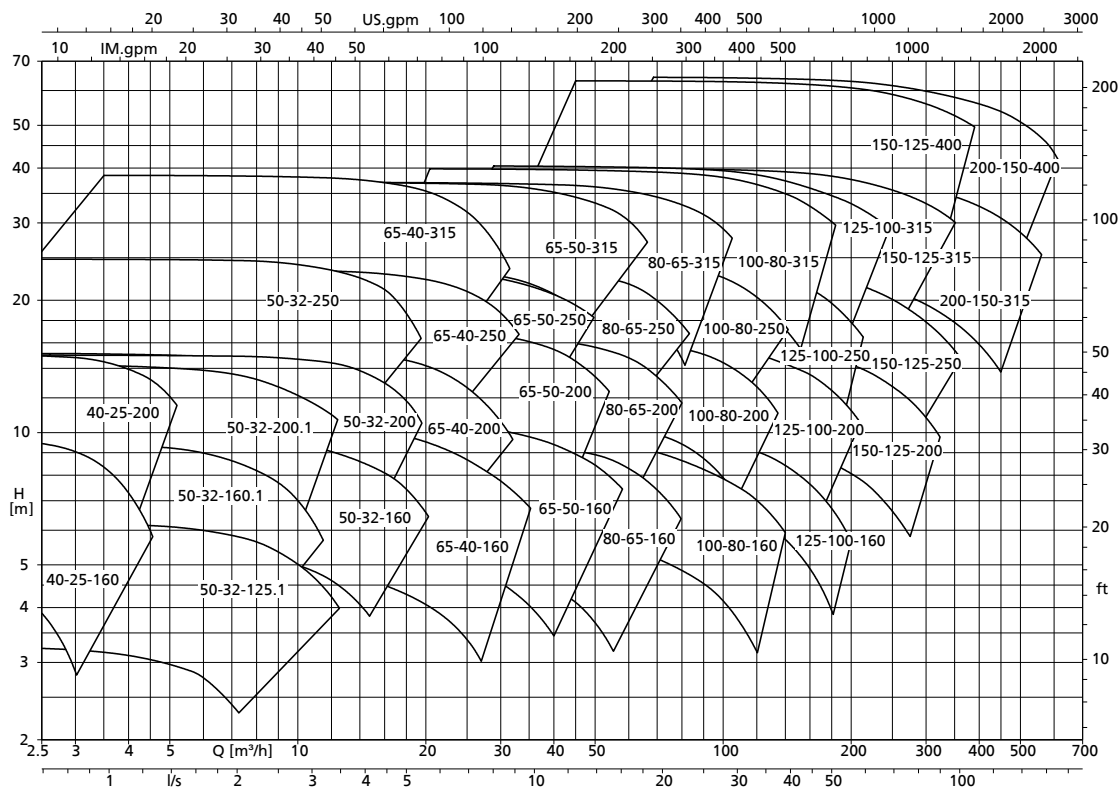
Size	Shaft unit	Impeller				Speed limit	
		Outlet	Inlet	Nominal diameter		Max.	Min.
			Diameter	Max.	Min.		
		[inch]				[rpm]	
065-050-200	25	0.54	3.27	8.62	6.69	3600	800
065-050-250	25	0.41	3.31	10.24	8.46	3,600	800
065-050-315	35	0.39	3.43	12.72	10.43	2400	800
080-065-160	25	0.83	3.62	6.85	5.20	3900	800
080-065-200	25	0.67	3.93	8.62	6.89	3600	800
080-065-250	35	0.59	3.98	10.24	8.46	3600	800
080-065-315	35	0.54	4.26	12.60	10.24	1900	800
100-080-160	25	1.24	4.88	6.85	5.43	3600	800
100-080-200	35	0.96	4.53	8.62	7.09	3600	800
100-080-250	35	0.75	4.53	10.59	8.46	3600	800
100-080-315	35	0.74	4.55	13.15	10.59	1900	800
125-100-160	35	1.48	5.31	7.28	6.38	3600	800
125-100-200	35	1.28	5.59	8.62	7.05	3600	800
125-100-250	35	1.06	5.71	10.59	8.27	3600	800
125-100-315	35	0.91	5.59	13.15	10.63	1900	800
150-125-200	35	1.60	6.26	8.82	7.17	3600	800
150-125-250	35	1.46	6.39	10.59	8.58	2000	800
150-125-315	55	1.22	6.38	13.15	10.63	1900	800
150-125-400	55	1.02	6.39	16.50	12.99	1800	800
200-150-315	55	1.56	7.54	13.15	10.39	1800	800
200-150-400	55	1.30	7.54	16.50	12.99	1800	800

Selection charts

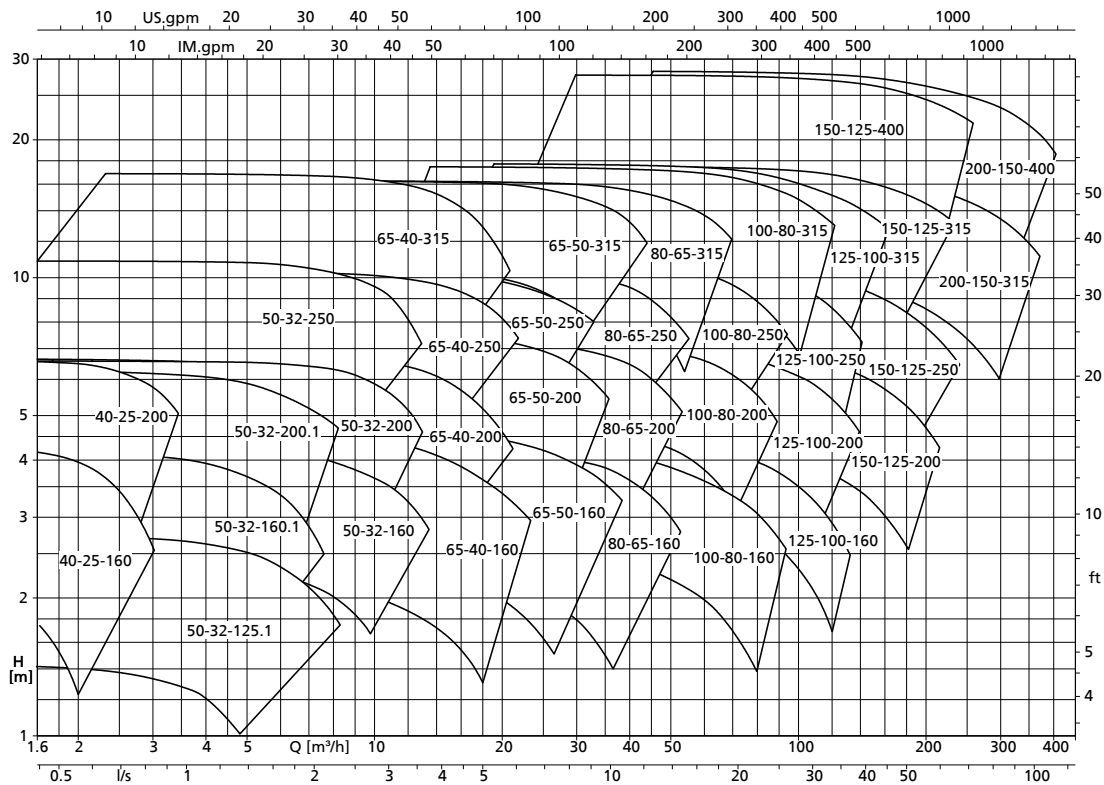
Etanorm SYT (fixed speed version), $n = 2900$ rpm



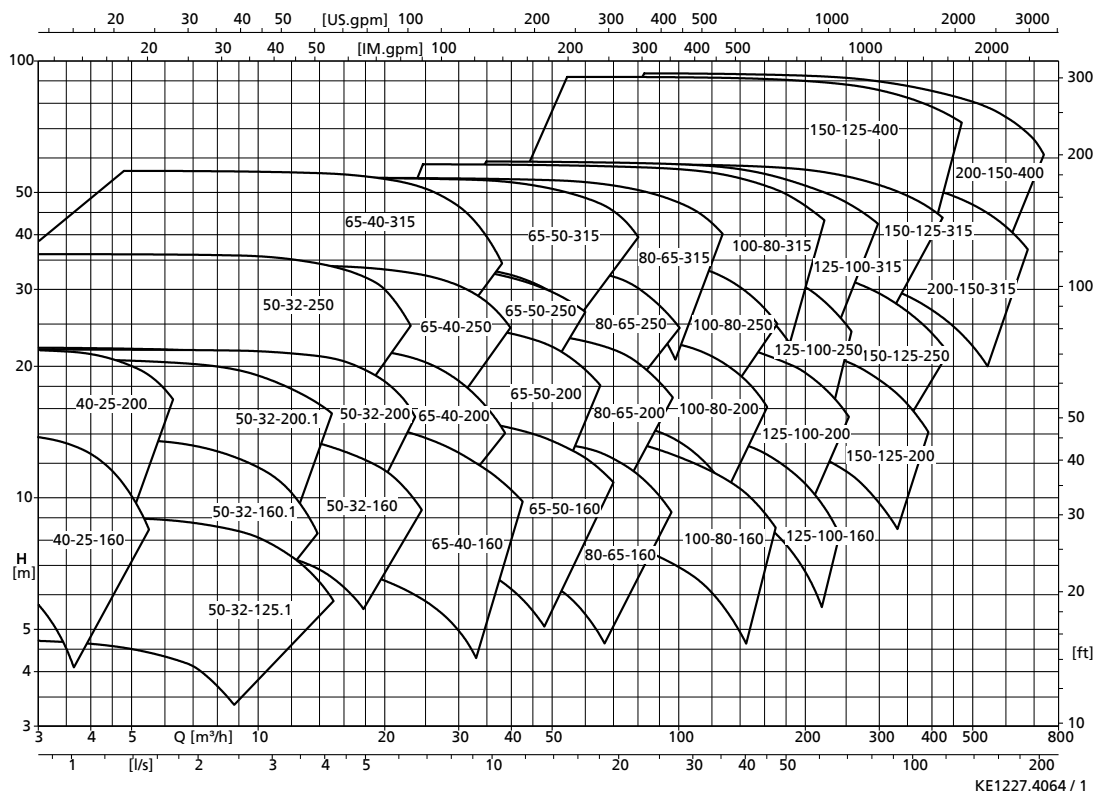
Etanorm SYT (fixed speed version), $n = 1450$ rpm



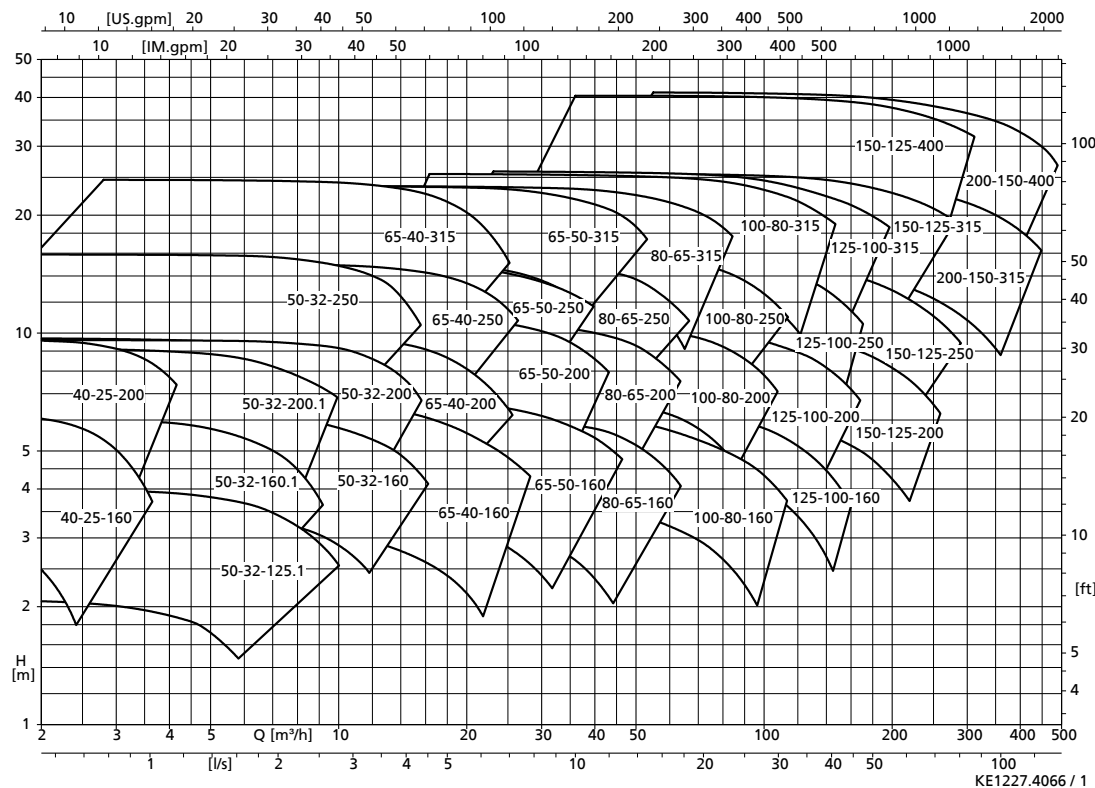
Etanorm SYT (fixed speed version), n = 960 rpm



Etanorm SYT (fixed speed version), n = 1750 rpm



Etanorm SYT (fixed speed version), n = 1160 rpm



Dimensions and connections

Pump (Fig. 0 bare-shaft pump)

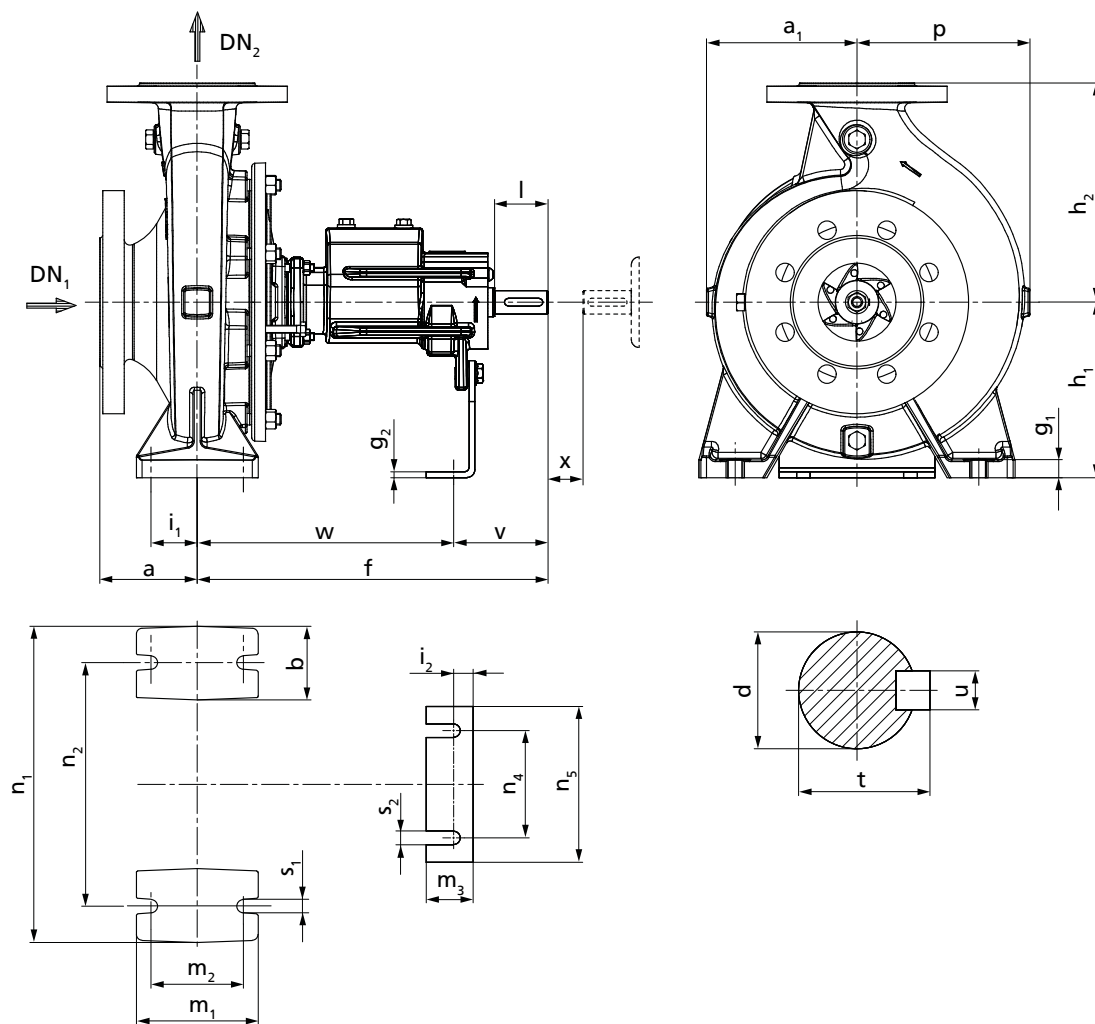


Fig. 2: Dimensions of Etanorm SYT pump (Fig. 0)

Table 19: Dimensions of Etanorm SYT pump (Fig. O) (SI units)

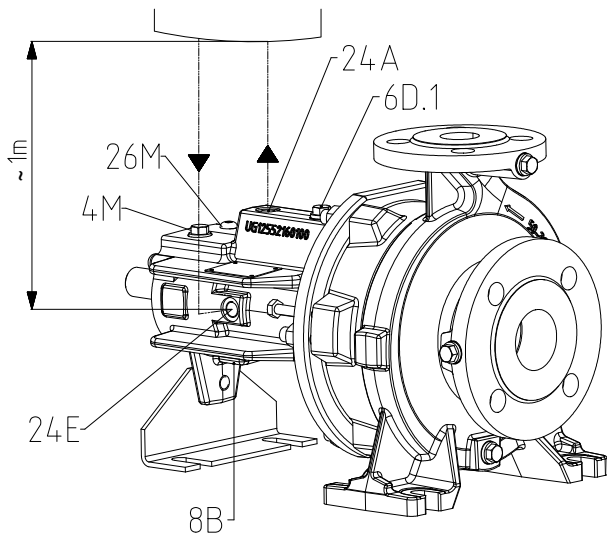
Size	Bearing bracket	DN ₁ ¹²⁾	DN ₂ ¹²⁾	a ¹²⁾	a ₁	b ¹²⁾	d ¹²⁾	f ¹²⁾	g ₁	g ₂	h ₁ ¹²⁾	h ₂ ¹²⁾	i ₁	i ₂	l ¹²⁾	m ₁ ¹²⁾	m ₂	m ₃ ¹²⁾	n ₁ ¹²⁾	n ₂ ¹²⁾	n ₄	n ₅	p	s ₁ ¹²⁾	s ₂ ¹²⁾	t	u	v	w ¹²⁾	x ¹²⁾
		[mm]																												
040-025-160	WS_25_LS	40	25	80	118	50	24	360	15	4	132	160	35	23	50	100	70	48	240	190	110	160	118	14	14	27	8	100	260	100
040-025-200	WS_25_LS	40	25	80	142	50	24	360	15	4	160	180	35	23	50	100	70	48	240	190	110	160	142	14	14	27	8	100	260	100
050-032-125.1	WS_25_LS	50	32	80	116	50	24	360	15	4	112	140	35	23	50	100	70	48	190	140	110	160	116	14	14	27	8	100	260	100
050-032-160.1	WS_25_LS	50	32	80	116	50	24	360	15	4	132	160	35	23	50	100	70	48	240	190	110	160	121	14	14	27	8	100	260	100
050-032-200.1	WS_25_LS	50	32	80	142	50	24	360	18	4	160	180	35	23	50	100	70	48	240	190	110	160	142	14	14	27	8	100	260	100
050-032-160	WS_25_LS	50	32	80	118	50	24	360	15	4	132	160	35	23	50	100	70	48	240	190	110	160	128	14	14	27	8	100	260	100
050-032-200	WS_25_LS	50	32	80	142	50	24	360	18	4	160	180	35	23	50	100	70	48	240	190	110	160	143	14	14	27	8	100	260	100
050-032-250	WS_25_LS	50	32	100	169	65	24	360	18	6	180	225	47.5	25	50	125	95	48	320	250	110	160	178	14	14	27	8	100	260	100
065-040-160	WS_25_LS	65	40	80	119	50	24	360	15	4	132	160	35	23	50	100	70	48	240	190	110	160	134	14	14	27	8	100	260	100
065-040-200	WS_25_LS	65	40	100	142	50	24	360	18	4	160	180	35	23	50	100	70	48	265	212	110	160	155	14	14	27	8	100	260	100
065-040-250	WS_25_LS	65	40	100	169	65	24	360	18	6	180	225	47.5	25	50	125	95	48	320	250	110	160	179	14	14	27	8	100	260	100
065-040-315	WS_35_LS	65	40	125	207	65	32	470	18	6	225	250	47.5	24	80	125	95	48	345	280	110	160	207	14	14	35	10	130	340	100
065-050-160	WS_25_LS	65	50	100	128	50	24	360	18	4	160	180	35	23	50	100	70	48	265	212	110	160	149	14	14	27	8	100	260	100
065-050-200	WS_25_LS	65	50	100	144	50	24	360	18	4	160	200	35	23	50	100	70	48	265	212	110	160	163	14	14	27	8	100	260	100
065-050-250	WS_25_LS	65	50	100	170	65	24	360	18	6	180	225	47.5	25	50	125	95	48	320	250	110	160	186	14	14	27	8	100	260	100
065-050-315	WS_35_LS	65	50	125	207	65	32	470	18	6	225	280	47.5	24	80	125	95	48	345	280	110	160	215	14	14	35	10	130	340	100
080-065-160	WS_25_LS	80	65	100	132	65	24	360	18	4	160	200	47.5	23	50	125	95	48	280	212	110	160	160	14	14	27	8	100	260	100
080-065-200	WS_25_LS	80	65	100	155	65	24	360	18	6	180	225	47.5	25	50	125	95	48	320	250	110	160	178	14	14	27	8	100	260	140
080-065-250	WS_35_LS	80	65	100	179	80	32	470	20	6	200	250	60	24	80	160	120	48	360	280	110	160	199	19	14	35	10	130	340	140
080-065-315	WS_35_LS	80	65	125	209	80	32	470	20	6	225	280	60	24	80	160	120	48	400	315	110	160	229	19	14	35	10	130	340	140
100-080-160	WS_25_LS	100	80	125	138	65	24	360	18	6	180	225	47.5	25	50	125	95	48	320	250	110	160	174	14	14	27	8	100	260	140
100-080-200	WS_35_LS	100	80	125	159	65	32	470	18	4	180	250	47.5	22	80	125	95	48	345	280	110	160	188	14	14	35	10	130	340	140
100-080-250	WS_35_LS	100	80	125	183	80	32	470	18	6	200	280	60	24	80	160	120	48	400	315	110	160	209	19	14	35	10	130	340	140
100-080-315	WS_35_LS	100	80	125	218	80	32	470	20	6	250	315	60	24	80	160	120	48	400	315	110	160	242	19	14	35	10	130	340	140
125-100-160	WS_35_LS	125	100	125	178	80	32	470	18	6	200	280	60	24	80	160	120	48	360	280	110	160	225	19	14	35	10	130	340	140
125-100-200	WS_35_LS	125	100	125	173	80	32	470	18	6	200	280	60	24	80	160	120	48	360	280	110	160	212	19	14	35	10	130	340	140
125-100-250	WS_35_LS	125	100	140	188	80	32	470	18	6	225	280	60	24	80	160	120	48	400	315	110	160	219	19	14	35	10	130	340	140
125-100-315	WS_35_LS	125	100	140	225	80	32	470	18	6	250	315	60	24	80	160	120	48	400	315	110	160	255	19	14	35	10	130	340	140
150-125-200	WS_35_LS	150	125	140	189	80	32	470	20	6	250	315	60	24	80	160	120	48	400	315	110	160	242	19	14	35	10	130	340	140
150-125-250	WS_35_LS	150	125	140	226	80	32	470	20	6	250	355	60	24	80	160	120	48	400	315	110	160	275	19	14	35	10	130	340	140
150-125-315	WS_55_LS	150	125	140	243	100	42	530	20	6	280	355	75	25	110	200	150	48	500	400	110	160	280	24	14	45	12	160	370	140
150-125-400	WS_55_LS	150	125	140	277	100	42	530	20	6	315	400	75	25	110	200	150	48	500	400	110	160	309	24	14	45	12	160	370	140
200-150-315	WS_55_LS	200	150	160	255	100	42	530	20	6	280	400	75	25	110	200	150	48	550	450	110	160	304	24	14	45	12	160	370	140
200-150-400	WS_55_LS	200	150	160	289	100	42	530	20	6	315	450	75	25	110	200	150	48	550	450	110	160	331	24	14	45	12	160	370	140

¹²⁾ Dimensions to EN 733

Table 20: Dimensions of Etanorm SYT pump (Fig. 0) (imperial units)

Size	Bearing bracket	DN ₁ ⁽¹²⁾	DN ₂ ⁽¹²⁾	a ⁽¹²⁾	a ₁	b ⁽¹²⁾	d ⁽¹²⁾	f ⁽¹²⁾	g ₁	g ₂	h ₁ ⁽¹²⁾	h ₂ ⁽¹²⁾	i ₁	i ₂	l ⁽¹²⁾	m ₁ ⁽¹²⁾	m ₂	m ₃ ⁽¹²⁾	n ₁ ⁽¹²⁾	n ₂ ⁽¹²⁾	n ₄ ⁽¹²⁾	n ₅	p	s ₁ ⁽¹²⁾	s ₂ ⁽¹²⁾	t	u	v	w ⁽¹²⁾	x ⁽¹²⁾
		[inch]																												
040-025-160	WS_25_LS	NPS 11/2	NPS 1	3.15	4.65	1.97	0.94	14.17	0.59	0.16	5.20	6.30	1.38	0.91	1.97	3.94	2.76	1.89	9.45	7.48	4.33	6.30	4.65	0.55	0.55	1.06	0.31	3.94	10.24	3.94
040-025-200	WS_25_LS	NPS 11/2	NPS 1	3.15	5.59	1.97	0.94	14.17	0.59	0.16	6.30	7.09	1.38	0.91	1.97	3.94	2.76	1.89	9.45	7.48	4.33	6.30	5.59	0.55	0.55	1.06	0.31	3.94	10.24	3.94
050-032-125.1	WS_25_LS	NPS 2	NPS 11/4	3.15	4.57	1.97	0.94	14.17	0.59	0.16	4.41	5.51	1.38	0.91	1.97	3.94	2.76	1.89	7.48	5.51	4.33	6.30	4.57	0.55	0.55	1.06	0.31	3.94	10.24	3.94
050-032-160.1	WS_25_LS	NPS 2	NPS 11/4	3.15	4.57	1.97	0.94	14.17	0.59	0.16	5.20	6.30	1.38	0.91	1.97	3.94	2.76	1.89	9.45	7.48	4.33	6.30	4.76	0.55	0.55	1.06	0.31	3.94	10.24	3.94
050-032-200.1	WS_25_LS	NPS 2	NPS 11/4	3.15	5.59	1.97	0.94	14.17	0.71	0.16	6.30	7.09	1.38	0.91	1.97	3.94	2.76	1.89	9.45	7.48	4.33	6.30	5.59	0.55	0.55	1.06	0.31	3.94	10.24	3.94
050-032-160	WS_25_LS	NPS 2	NPS 11/4	3.15	4.65	1.97	0.94	14.17	0.59	0.16	5.20	6.30	1.38	0.91	1.97	3.94	2.76	1.89	9.45	7.48	4.33	6.30	5.04	0.55	0.55	1.06	0.31	3.94	10.24	3.94
050-032-200	WS_25_LS	NPS 2	NPS 11/4	3.15	5.59	1.97	0.94	14.17	0.71	0.16	6.30	7.09	1.38	0.91	1.97	3.94	2.76	1.89	9.45	7.48	4.33	6.30	5.63	0.55	0.55	1.06	0.31	3.94	10.24	3.94
050-032-250	WS_25_LS	NPS 2	NPS 11/4	3.94	6.65	2.56	0.94	14.17	0.71	0.24	7.09	8.86	1.87	0.98	1.97	4.92	3.74	1.89	12.60	9.84	4.33	6.30	7.01	0.55	0.55	1.06	0.31	3.94	10.24	3.94
065-040-160	WS_25_LS	NPS 2 1/2	NPS 11/2	3.15	4.69	1.97	0.94	14.17	0.59	0.16	5.20	6.30	1.38	0.91	1.97	3.94	2.76	1.89	9.45	7.48	4.33	6.30	5.28	0.55	0.55	1.06	0.31	3.94	10.24	3.94
065-040-200	WS_25_LS	NPS 2 1/2	NPS 11/2	3.94	5.59	1.97	0.94	14.17	0.71	0.16	6.30	7.09	1.38	0.91	1.97	3.94	2.76	1.89	10.43	8.35	4.33	6.30	6.10	0.55	0.55	1.06	0.31	3.94	10.24	3.94
065-040-250	WS_25_LS	NPS 2 1/2	NPS 11/2	3.94	6.65	2.56	0.94	14.17	0.71	0.24	7.09	8.86	1.87	0.98	1.97	4.92	3.74	1.89	12.60	9.84	4.33	6.30	7.05	0.55	0.55	1.06	0.31	3.94	10.24	3.94
065-040-315	WS_35_LS	NPS 2 1/2	NPS 11/2	4.92	8.15	2.56	1.26	18.50	0.71	0.24	8.86	9.84	1.87	0.94	3.15	4.92	3.74	1.89	13.58	11.02	4.33	6.30	8.15	0.55	0.55	1.38	0.39	5.12	13.39	3.94
065-050-160	WS_25_LS	NPS 2 1/2	NPS 2	3.94	5.04	1.97	0.94	14.17	0.71	0.16	6.30	7.09	1.38	0.91	1.97	3.94	2.76	1.89	10.43	8.35	4.33	6.30	5.87	0.55	0.55	1.06	0.31	3.94	10.24	3.94
065-050-200	WS_25_LS	NPS 2 1/2	NPS 2	3.94	5.67	1.97	0.94	14.17	0.71	0.16	6.30	7.87	1.38	0.91	1.97	3.94	2.76	1.89	10.43	8.35	4.33	6.30	6.42	0.55	0.55	1.06	0.31	3.94	10.24	3.94
065-050-250	WS_25_LS	NPS 2 1/2	NPS 2	3.94	6.69	2.56	0.94	14.17	0.71	0.24	7.09	8.86	1.87	0.98	1.97	4.92	3.74	1.89	12.60	9.84	4.33	6.30	7.32	0.55	0.55	1.06	0.31	3.94	10.24	3.94
065-050-315	WS_35_LS	NPS 2 1/2	NPS 2	4.92	8.15	2.56	1.26	18.50	0.71	0.24	8.86	11.02	1.87	0.94	3.15	4.92	3.74	1.89	13.58	11.02	4.33	6.30	8.46	0.55	0.55	1.38	0.39	5.12	13.39	3.94
080-065-160	WS_25_LS	NPS 3	NPS 2 1/2	3.94	5.20	2.56	0.94	14.17	0.71	0.16	6.30	7.87	1.87	0.91	1.97	4.92	3.74	1.89	11.02	8.35	4.33	6.30	6.30	0.55	0.55	1.06	0.31	3.94	10.24	3.94
080-065-200	WS_25_LS	NPS 3	NPS 2 1/2	3.94	6.10	2.56	0.94	14.17	0.71	0.24	7.09	8.86	1.87	0.98	1.97	4.92	3.74	1.89	12.60	9.84	4.33	6.30	7.01	0.55	0.55	1.06	0.31	3.94	10.24	5.51
080-065-250	WS_35_LS	NPS 3	NPS 2 1/2	3.94	7.05	3.15	1.26	18.50	0.79	0.24	7.87	9.84	2.36	0.94	3.15	6.30	4.72	1.89	14.17	11.02	4.33	6.30	7.83	0.75	0.55	1.38	0.39	5.12	13.39	5.51
080-065-315	WS_35_LS	NPS 3	NPS 2 1/2	4.92	8.23	3.15	1.26	18.50	0.79	0.24	8.86	11.02	2.36	0.94	3.15	6.30	4.72	1.89	15.75	12.40	4.33	6.30	9.02	0.75	0.55	1.38	0.39	5.12	13.39	5.51
100-080-160	WS_25_LS	NPS 4	NPS 3	4.92	5.43	2.56	0.94	14.17	0.71	0.24	7.09	8.86	1.87	0.98	1.97	4.92	3.74	1.89	12.60	9.84	4.33	6.30	6.85	0.55	0.55	1.06	0.31	3.94	10.24	5.51
100-080-200	WS_35_LS	NPS 4	NPS 3	4.92	6.26	2.56	1.26	18.50	0.71	0.16	7.09	9.84	1.87	0.87	3.15	4.92	3.74	1.89	13.58	11.02	4.33	6.30	7.40	0.55	0.55	1.38	0.39	5.12	13.39	5.51
100-080-250	WS_35_LS	NPS 4	NPS 3	4.92	7.20	3.15	1.26	18.50	0.71	0.24	7.87	11.02	2.36	0.94	3.15	6.30	4.72	1.89	15.75	12.40	4.33	6.30	8.23	0.75	0.55	1.38	0.39	5.12	13.39	5.51
100-080-315	WS_35_LS	NPS 4	NPS 3	4.92	8.58	3.15	1.26	18.50	0.79	0.24	9.84	12.40	2.36	0.94	3.15	6.30	4.72	1.89	15.75	12.40	4.33	6.30	9.53	0.75	0.55	1.38	0.39	5.12	13.39	5.51
125-100-160	WS_35_LS	NPS 5	NPS 4	4.92	7.01	3.15	1.26	18.50	0.71	0.24	7.87	11.02	2.36	0.94	3.15	6.30	4.72	1.89	14.17	11.02	4.33	6.30	8.86	0.75	0.55	1.38	0.39	5.12	13.39	5.51
125-100-200	WS_35_LS	NPS 5	NPS 4	4.92	6.81	3.15	1.26	18.50	0.71	0.24	7.87	11.02	2.36	0.94	3.15	6.30	4.72	1.89	14.17	11.02	4.33	6.30	8.35	0.75	0.55	1.38	0.39	5.12	13.39	5.51
125-100-250	WS_35_LS	NPS 5	NPS 4	5.51	7.40	3.15	1.26	18.50	0.71	0.24	8.86	11.02	2.36	0.94	3.15	6.30	4.72	1.89	15.75	12.40	4.33	6.30	8.62	0.75	0.55	1.38	0.39	5.12	13.39	5.51
125-100-315	WS_35_LS	NPS 5	NPS 4	5.51	8.86	3.15	1.26	18.50	0.71	0.24	9.84	12.40	2.36	0.94	3.15	6.30	4.72	1.89	15.75	12.40	4.33	6.30	10.04	0.75	0.55	1.38	0.39	5.12	13.39	5.51
150-125-200	WS_35_LS	NPS 6	NPS 5	5.51	7.44	3.15	1.26	18.50	0.79	0.24	9.84	12.40	2.36	0.94	3.15	6.30	4.72	1.89	15.75	12.40	4.33	6.30	9.53	0.75	0.55	1.38	0.39	5.12	13.39	5.51
150-125-250	WS_35_LS	NPS 6	NPS 5	5.51	8.90	3.15	1.26	18.50	0.79	0.24	9.84	13.98	2.36	0.94	3.15	6.30	4.72	1.89	15.75	12.40	4.33	6.30	10.83	0.75	0.55	1.38	0.39	5.12	13.39	5.51
150-125-315	WS_55_LS	NPS 6	NPS 5	5.51	9.57	3.94	1.65	20.87	0.79	0.24	11.02	13.98	2.95	0.98	4.33	7.87	5.91	1.89	19.69	15.75	4.33	6.30	11.02	0.94	0.55	1.77	0.47	6.30	14.57	5.51
150-125-400	WS_55_LS	NPS 6	NPS 5	5.51	10.91	3.94	1.65	20.87	0.79	0.24	12.40	15.75	2.95	0.98	4.33	7.87	5.91	1.89	19.69	15.75	4.33	6.30	12.17	0.94	0.55	1.77	0.47	6.30	14.57	5.51
200-150-315	WS_55_LS	NPS 8	NPS 6	6.30	10.04	3.94	1.65	20.87	0.79	0.24	11.02	15.75	2.95	0.98	4.33	7.87	5.91	1.89	21.65	17.72	4.33	6.30	11.97	0.94	0.55	1.77	0.47	6.30	14.57	5.51
200-150-400	WS_55_LS	NPS 8	NPS 6	6.30	11.38	3.94	1.65	20.87	0.79	0.24	12.40	17.72	2.95	0.98	4.33	7.87	5.91	1.89	21.65	17.72	4.33	6.30	13.03	0.94	0.55	1.77	0.47	6.30	14.57	5.51

Connections for double mechanical seal and monitoring equipment



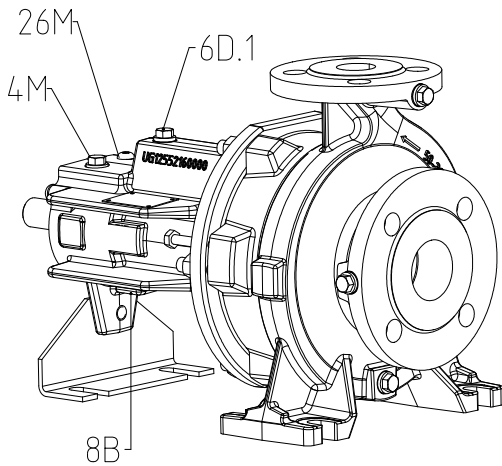
UG14.63705_CDK_D01_002 /03

Fig. 3: Connections for double mechanical seal and monitoring equipment

Table 21: Overview

Connection	Design
4M	Temperature measurement
6D.1	Fluid priming and venting
8B	Leakage drain
24A	Quench liquid outlet
24E	Quench liquid inlet
26M	Shock pulse measurement

Connections for single mechanical seal and monitoring equipment



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Fig. 4: Connections for single mechanical seal and monitoring equipment

Table 22: Overview

Connection	Design
4M	Temperature measurement
6D.1	Fluid priming and venting
8B	Leakage drain
26M	Shock pulse measurement

Connections

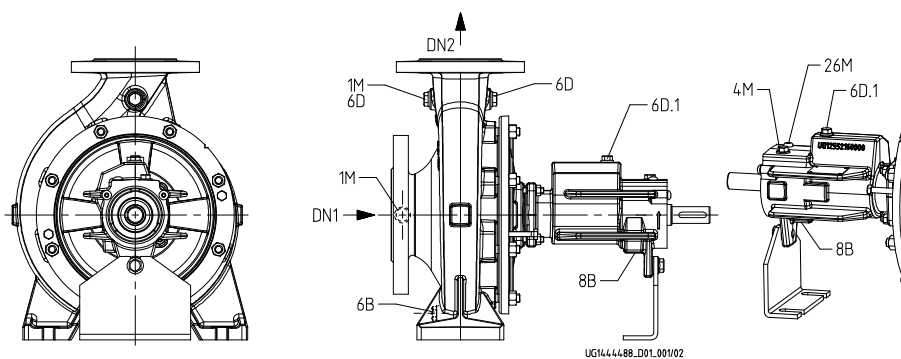


Fig. 5: Connections of Etanorm SYT with single mechanical seal

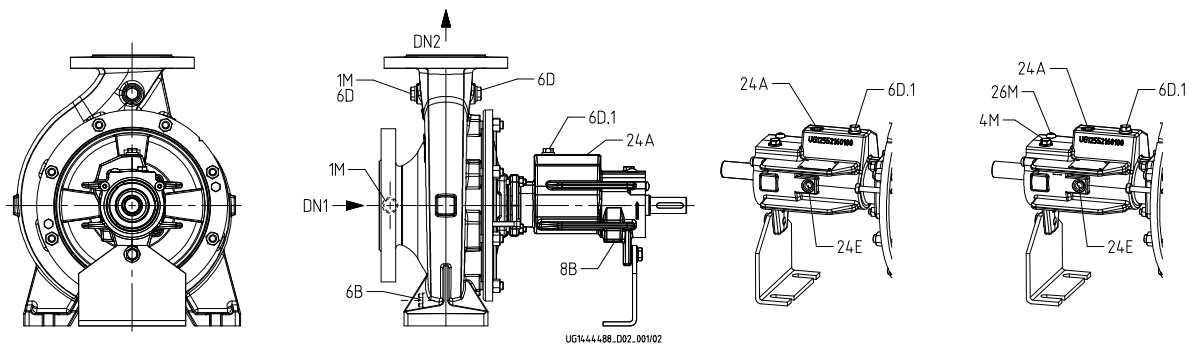


Fig. 6: Connections of Etanorm SYT with double mechanical seal

Table 23: Connections

Connection * = Optional	Design	Configuration	Position
1M	Pressure gage	Drilled and closed or with pressure sensor	DN ₂
1M*	Pressure gage	Drilled and closed or with pressure sensor	DN ₁
4M	Temperature measurement	Drilled and closed or with temperature sensor	-
6B	Fluid drain	Drilled and closed	-
6D	Fluid priming and venting	Drilled and closed	DN ₂ , suction side
6D*	Fluid priming and venting	Drilled and closed	DN ₂ , drive end
6D.1	Fluid priming and venting	Drilled and closed	-
8B	Leakage drain	Drilled	-
24A	Quench liquid outlet	Drilled and closed or with quench piping	-
24E	Quench liquid inlet	Drilled and closed or with quench piping	-
26M	Shock pulse measurement	Drilled and closed or with vibration sensor	-

Table 24: Etanorm SYT connections

Etanorm SYT	Bearing bracket	Material S		
		Connections at the volute casing	Connections at the bearing bracket	
			1M / 6D / 6B	26M
				6D.1 / 8B / 24A / 24E / 4M
040-025-160	WS_25_LS	G 1/4	M8	G 1/4
040-025-200	WS_25_LS	G 1/4	M8	G 1/4
050-032-125.1	WS_25_LS	G 1/4	M8	G 1/4
050-032-160.1	WS_25_LS	G 1/4	M8	G 1/4
050-032-200.1	WS_25_LS	G 1/4	M8	G 1/4
050-032-160	WS_25_LS	G 1/4	M8	G 1/4
050-032-200	WS_25_LS	G 1/4	M8	G 1/4
050-032-250	WS_25_LS	G 1/4	M8	G 1/4
065-040-160	WS_25_LS	G 1/4	M8	G 1/4
065-040-200	WS_25_LS	G 1/4	M8	G 1/4
065-040-250	WS_25_LS	G 1/4	M8	G 1/4
065-040-315	WS_35_LS	G 1/4	M8	G 1/4
065-050-160	WS_25_LS	G 1/4	M8	G 1/4
065-050-200	WS_25_LS	G 1/4	M8	G 1/4
065-050-250	WS_25_LS	G 1/4	M8	G 1/4
065-050-315	WS_35_LS	G 1/4	M8	G 1/4
080-065-160	WS_25_LS	G 3/8	M8	G 1/4
080-065-200	WS_25_LS	G 3/8	M8	G 1/4
080-065-250	WS_35_LS	G 3/8	M8	G 1/4
080-065-315	WS_35_LS	G 3/8	M8	G 1/4
100-080-160	WS_25_LS	G 3/8	M8	G 1/4
100-080-200	WS_35_LS	G 3/8	M8	G 1/4
100-080-250	WS_35_LS	G 3/8	M8	G 1/4
100-080-315	WS_35_LS	G 3/8	M8	G 1/4
125-100-160	WS_35_LS	G 1/2	M8	G 1/4
125-100-200	WS_35_LS	G 1/2	M8	G 1/4
125-100-250	WS_35_LS	G 1/2	M8	G 1/4
125-100-315	WS_35_LS	G 1/2	M8	G 1/4
150-125-200	WS_35_LS	G 1/2	M8	G 1/4
150-125-250	WS_35_LS	G 1/2	M8	G 1/4
150-125-315	WS_55_LS	G 1/2	M8	G 1/4
150-125-400	WS_55_LS	G 1/2	M8	G 1/4
200-150-200	WS_55_LS	G 1/2	M8	G 1/4
200-150-400	WS_55_LS	G 1/2	M8	G 1/4

Flange design

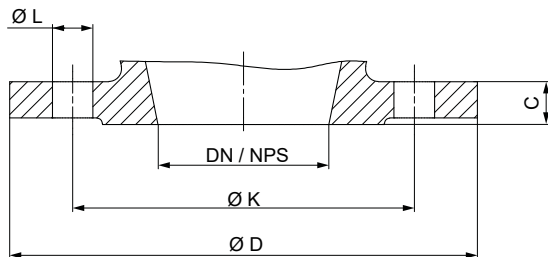


Fig. 7: Flange dimensions of Etanorm SYT

Table 25: Flange dimensions of Etanorm SYT (SI units)

DN / NPS	Standard					
	EN 1092-2			ASME B 16.1		
	PN 16			Class 125		
	Ø K	Ø D	Number and Ø of holes (Ø L)	Ø K	Ø D	Number and Ø of holes (Ø L)
	[mm]					
25 / NPS 1	85	115	4 × Ø14	79.2	115	4 × Ø15.7
32 / NPS 1 1/4	100	140	4 × Ø19	88.9	140	4 × Ø15.7
40 / NPS 1 1/2	110	150	4 × Ø19	98.6	150	4 × Ø15.7
50 / NPS 2	125	165	4 × Ø19	120.7	165	4 × Ø19.1
65 / NPS 2 1/2	145	185	4 × Ø19	139.7	185	4 × Ø19.1
80 / NPS 3 ¹³⁾	160	200 / 229 ¹⁴⁾	8 × Ø19	152.4	200 / 229 ¹⁴⁾	4 × Ø19.1
100 / NPS 4	180	230	8 × Ø19	190.5	230	8 × Ø19.1
125 / NPS 5	210	255	8 × Ø19	215.9	255	8 × Ø22.4
150 / NPS 6	240	285	8 × Ø23	241.3	285	8 × Ø22.4
200 / NPS 8	295	345	12 × Ø23	298.5	345	8 × Ø22.4

Table 26: Flange dimensions of Etanorm SYT (imperial units)

DN / NPS	Standard					
	EN 1092-2			ASME B 16.1		
	PN 16			Class 125		
	Ø K	Ø D	Number and Ø of holes (Ø L)	Ø K	Ø D	Number and Ø of holes (Ø L)
	[inch]					
25 / NPS 1	3.35	4.53	4 × Ø 5/8	3.12	4.53	4 × Ø 5/8
32 / NPS 1 1/4	3.94	5.51	4 × Ø 3/4	3.50	5.51	4 × Ø 5/8
40 / NPS 1 1/2	4.33	5.91	4 × Ø 3/4	3.88	5.91	4 × Ø 5/8
50 / NPS 2	4.92	6.50	4 × Ø 3/4	4.75	6.50	4 × Ø 3/4
65 / NPS 2 1/2	5.71	7.28	4 × Ø 3/4	5.50	7.28	4 × Ø 3/4
80 / NPS 3 ¹³⁾	6.30	7.87 / 9.02 ¹⁴⁾	8 × Ø 3/4	6.00	7.87 / 9.02 ¹⁴⁾	4 × Ø 3/4
100 / NPS 4	7.09	9.06	8 × Ø 3/4	7.50	9.06	8 × Ø 3/4
125 / NPS 5	8.27	10.04	8 × Ø 3/4	8.50	10.04	8 × Ø 7/8
150 / NPS 6	9.45	11.22	8 × Ø 10/11	9.50	11.22	8 × Ø 7/8
200 / NPS 8	11.61	13.58	12 × Ø 10/11	11.75	13.58	8 × Ø 7/8

¹³ DN 80 machined like DN 100, drilled to ASME

¹⁴ Suction-side flange DN 80; applies to sizes 080-065-160, 080-065-200, 080-065-250, 080-065-315. Also see the table on Equivalents.

Etanorm SYT	Bearing bracket	Materials SG / SC	
		DN 1	DN 2
		ASME 125	ASME 125
080-065-160	25	NPS 4	NPS 2 1/2
080-065-200	25	NPS 4	NPS 2 1/2
080-065-250	35	NPS 4	NPS 2 1/2
080-065-315	35	NPS 4	NPS 2 1/2

Material	Standard	Nominal size	Pressure class
S	EN 1092-2	DN 25 - DN 200	PN 16
S	Drilled to ASME B16.1 ¹⁵⁾	DN 25 - DN 200	Class 125

Depending on the model, the following items are included in the scope of supply:

- ### Scope of supply
- Depending on the model, the following items are included in the scope of supply:
- Pump
 - Baseplate
 - Coupling
 - Coupling guard
 - Drive
 - Fan impeller (optional)
 - Quench pot with pipework (optional)
 - Other accessories on request

Version with bearing bracket WS_25_LS



¹⁵ DN 80 machined like DN 100

Table 29: List of components

Part No.	Description	Part No.	Description
102	Volute casing	476	Mating ring carrier
161	Casing cover	502.01/.02 ¹⁶⁾	Casing wear ring
183	Support foot	504.01	Spacer ring
210	Shaft	550.21	Disc
230	Impeller	901.04/.30	Hexagon head bolt
310	Plain bearing	902.01/.15	Stud
321	Radial ball bearing	903.01/.02/.03/.04/.48/.85	Screw plug
330	Bearing bracket	914.02/.99	Hexagon socket head cap screw
360	Bearing cover	920.01/.15/.95	Nut
411.01/.02/.03/.04/.10/.15/.85	Joint ring	930.95	Safety device
412.48/.55/.69	O-ring	932.02/.80	Circlip
421.55	Lip seal	940.01/.02	Key
433	Mechanical seal		

¹⁶⁾ 502.02 not fitted on sizes 040-025-160, 050-032-125.1, 050-032-160, 050-032-160.1

Version with bearing bracket WS_25_LS with double mechanical seal

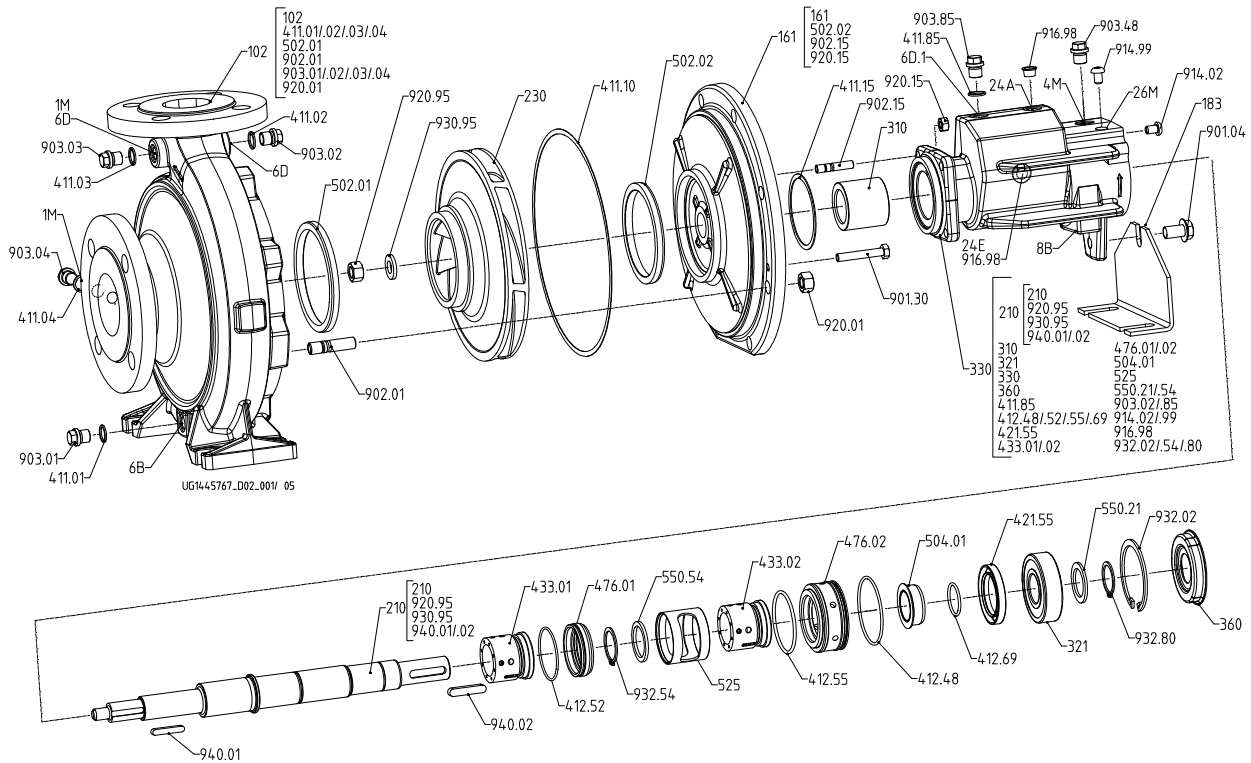


Fig. 9: Exploded view of Etanorm SYT; bearing bracket WS_25_LS with double mechanical seal

Table 30: List of components

Part No.	Description	Part No.	Description
102	Volute casing	502.01/.02 ¹⁷⁾	Casing wear ring
161	Casing cover	504.01	Spacer ring
183	Support foot	525	Spacer sleeve
210	Shaft	550.21/.54	Disc
230	Impeller	901.04/.30	Hexagon head bolt
310	Plain bearing	902.01/.15	Stud
321	Radial ball bearing	903.01/.02/.03/.04/.48/.85	Screw plug
330	Bearing bracket	914.02/.99	Hexagon socket head cap screw
360	Bearing cover	916.98	Plug
411.01/.02/.03/.04/.10/.15/.85	Joint ring	920.01/.15/.95	Nut
412.48/.52/.55/.69	O-ring	930.95	Safety device
421.55	Lip seal	932.02/.54/.80	Circlip
433.01/.02	Mechanical seal	940.01/.02	Key
476.01/.02	Mating ring carrier		

¹⁷⁾ 502.02 not fitted on sizes 040-025-160, 050-032-125.1, 050-032-160, 050-032-160.1

Version with bearing brackets WS_25_LS / WS_55_LS with SiC plain bearing

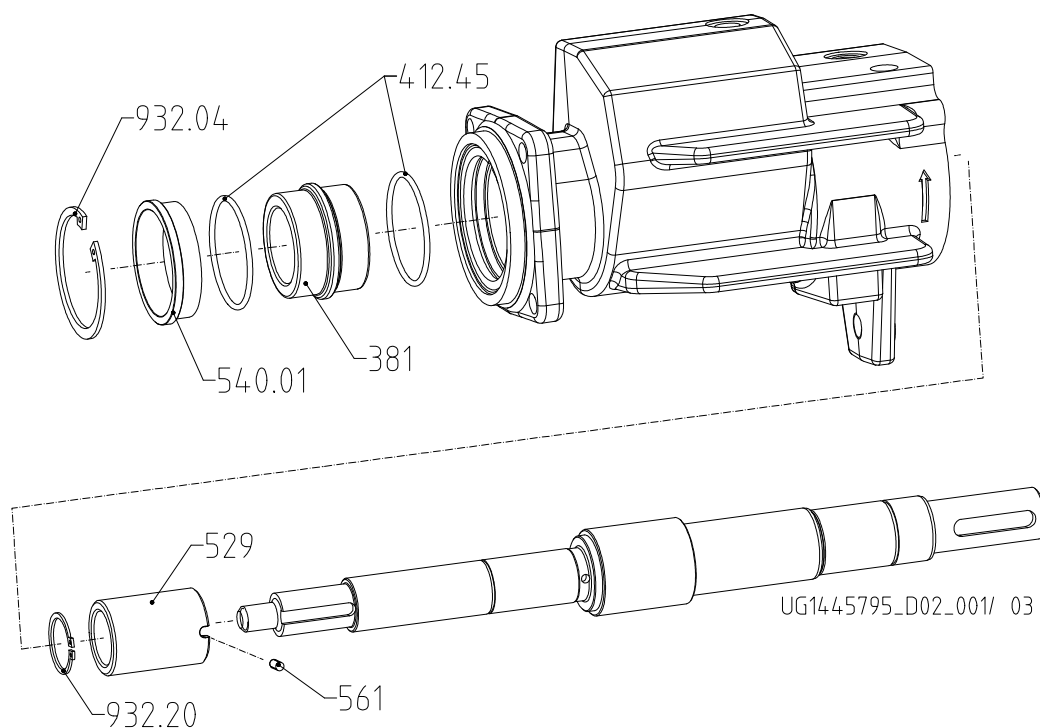


Fig. 10: Exploded view of Etanorm SYT, bearing brackets WS_25_LS / WS_55_LS with SiC plain bearing

Table 31: List of components

Part No.	Description	Part No.	Description
381	Bearing cartridge	540.01	Bush
412.45	O-ring	561	Grooved pin
529	Bearing sleeve	932.04/20	Circlip

Version with bearing brackets WS_35_LS / WS_55_LS

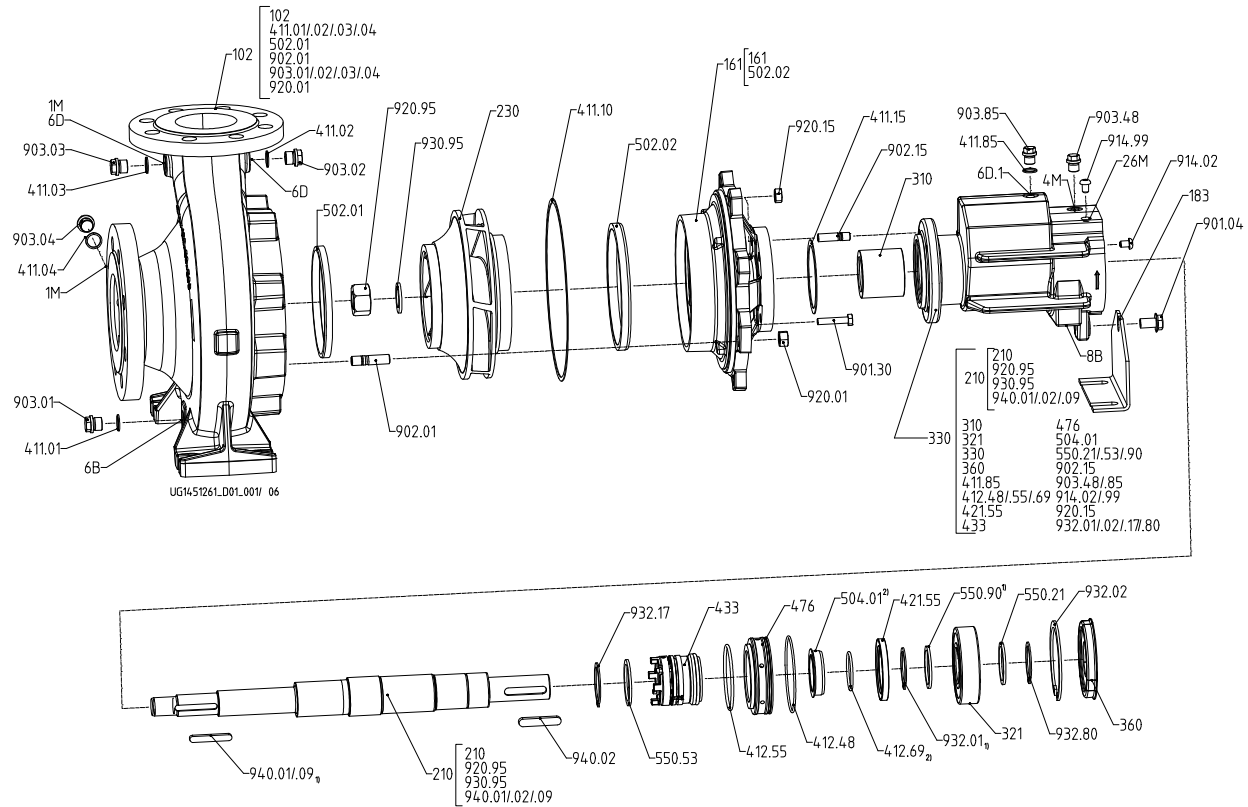


Fig. 11: Exploded view of Etanorm SYT; bearing brackets WS_35_LS / WS_55_LS

¹⁾ For WS_55 only

²⁾ For WS_35 only

Table 32: List of components

Part No.	Description	Part No.	Description
102	Volute casing	476	Mating ring carrier
161	Casing cover	502.01/.02	Casing wear ring
183	Support foot	504.01 ¹⁸⁾	Spacer ring
210	Shaft	550.21/.53/.90 ¹⁹⁾	Disc
230	Impeller	901.04/.30	Hexagon head bolt
310	Plain bearing	902.01/.15	Stud
321	Radial ball bearing	903.01/.02/.03/.04/.48/.85	Screw plug
330	Bearing bracket	914.02/.99	Hexagon socket head cap screw
360	Bearing cover	920.01/.15/.95	Nut
411.01/.02/.03/.04/.10/.15/.85	Joint ring	930.95	Safety device
412.48/.55/.69	O-ring	932.01 ²⁰⁾ /.02/.17/.80	Circlip
421.55	Lip seal	940.01/.02/.09 ²¹⁾	Key
433	Mechanical seal		

¹⁸⁾ 504.01 for bearing bracket WS_35_LS only

¹⁹⁾ 550.90 for bearing bracket WS_55_LS only

²⁰⁾ 932.01 for bearing bracket WS_55_LS only

²¹⁾ 940.09 for bearing bracket WS_55_LS only

Version with bearing brackets WS 35 LS / WS 55 LS with double mechanical seal

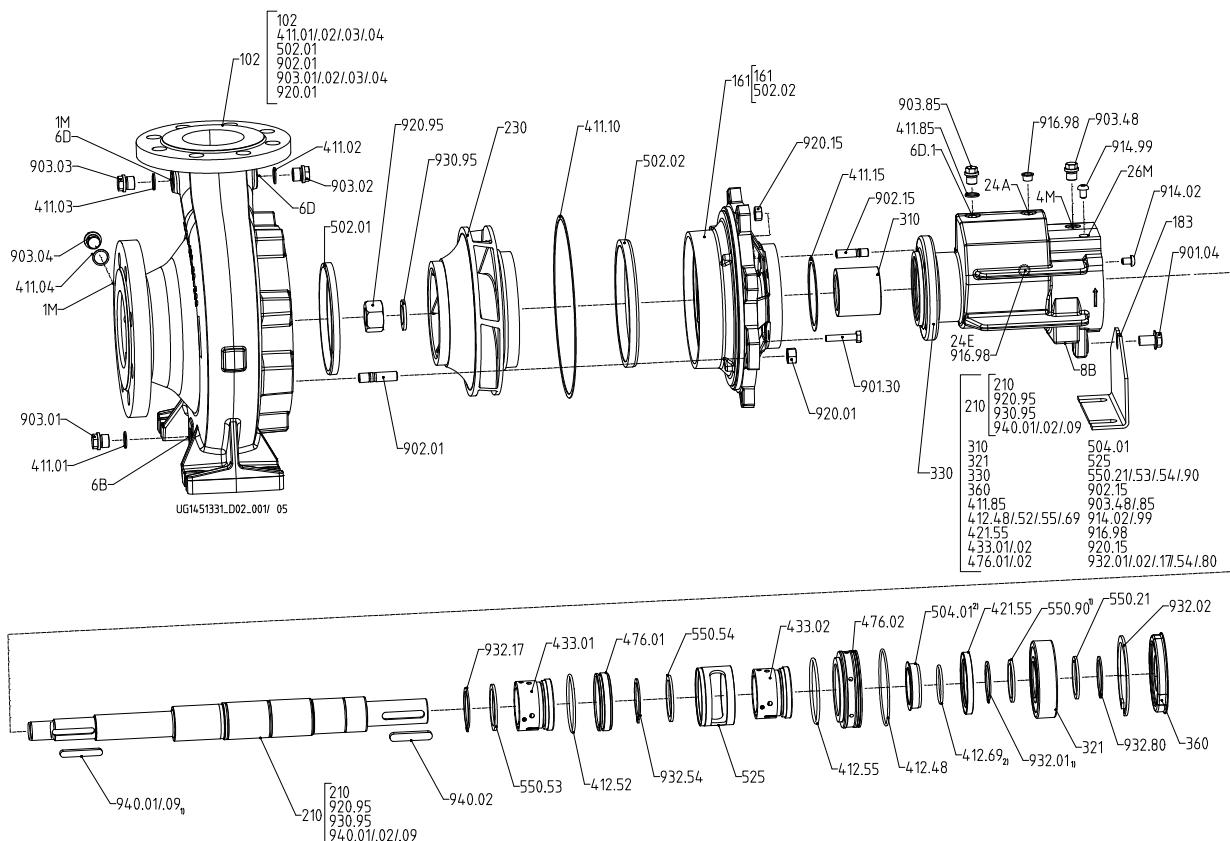


Fig. 12: Exploded view of Etanorm SYT; bearing bracket WS_35_LS / WS_55_LS with double mechanical seal

1) WS 55 only

2) WS_35 only

Table 33: List of components

Part No.	Description	Part No.	Description
102	Volute casing	502.01/.02	Casing wear ring
161	Casing cover	504.01 ²²⁾	Spacer ring
183	Support foot	525	Spacer sleeve
210	Shaft	550.21/.53/.54/.90 ²³⁾	Disc
230	Impeller	901.04/.30	Hexagon head bolt
310	Plain bearing	902.01/.15	Stud
321	Radial ball bearing	903.01/.02/.03/.04/.48/.85	Screw plug
330	Bearing bracket	914.02/.99	Hexagon socket head cap screw
360	Bearing cover	916.98	Plug
411.01/.02/.03/.04/.10/.15/.85	Joint ring	920.01/.15/.95	Nut
412.48/.52/.55/.69 ²⁴⁾	O-ring	930.95	Safety device
421.55	Lip seal	932.01 ²⁵⁾ /.02/.17/.54/.80	Circlip
433.01/.02	Mechanical seal	940.01/.02/.09 ²⁶⁾	Key
476.01/.02	Mating ring carrier		

22 504.01 for bearing bracket WS 35 LS only

23 550.90 for bearing bracket WS 55 LS only

24 412.69 for bearing bracket WS 35 LS only

25 932.01 for bearing bracket WS 55 LS only

26 940.09 for bearing bracket WS 55 LS only

Version with bearing bracket WS_35_LS with SiC plain bearing

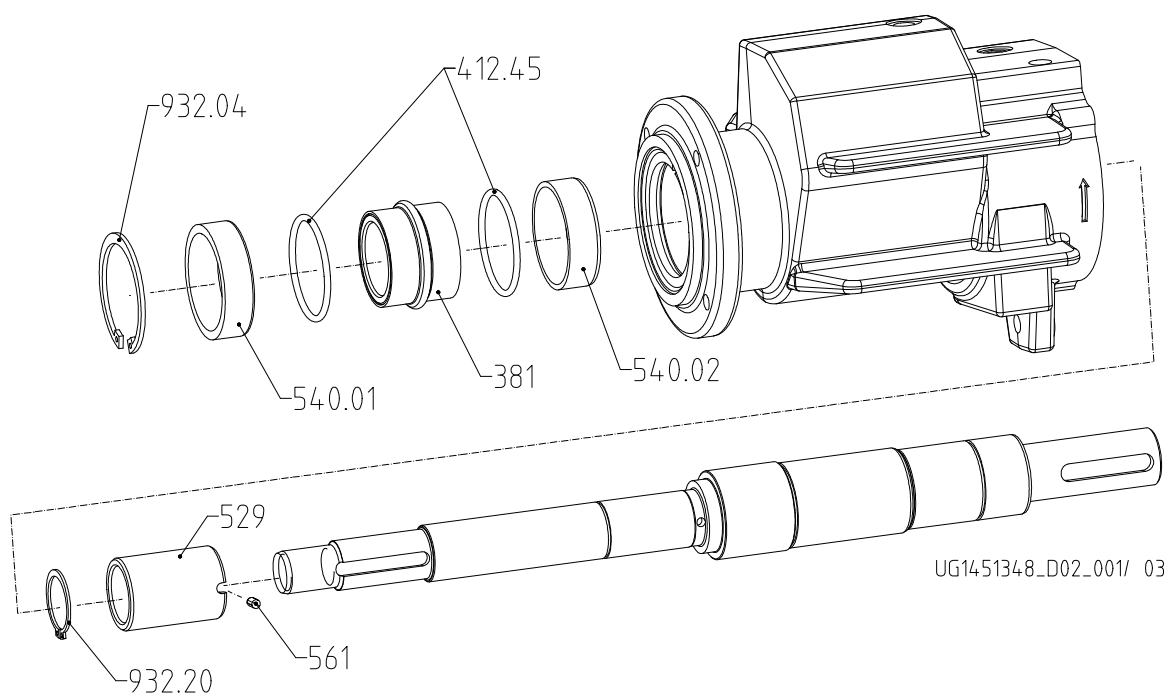
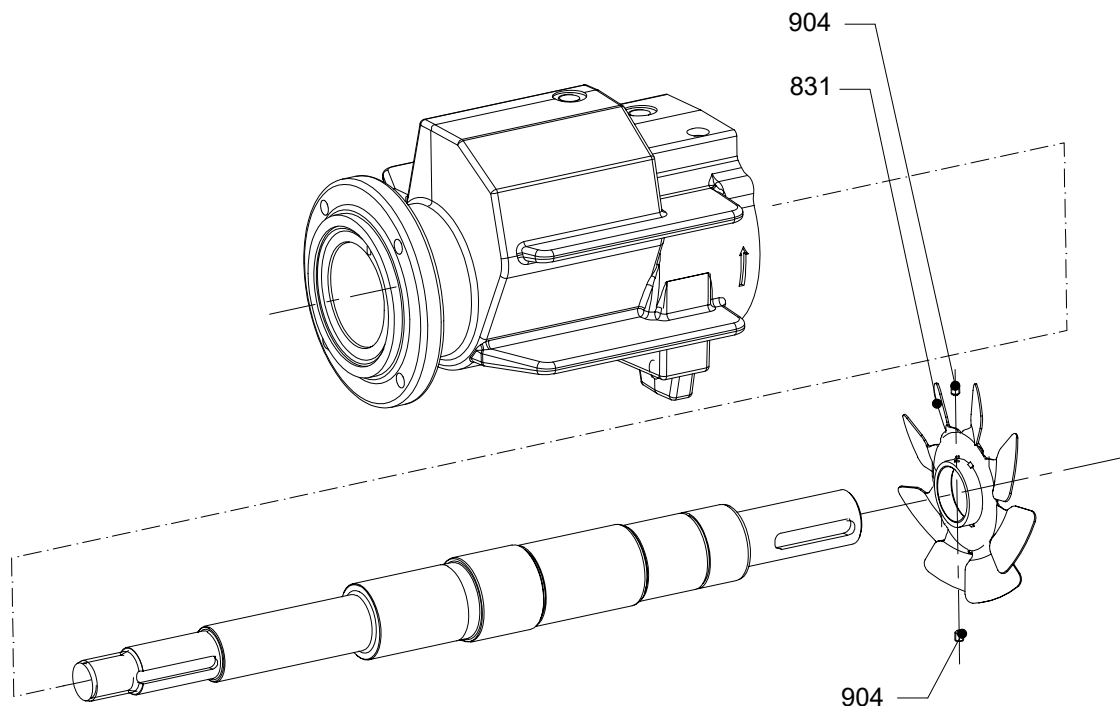


Fig. 13: Exploded view of Etanorm SYT, bearing bracket WS_35_LS with SiC plain bearing

Table 34: List of components

Part No.	Description	Part No.	Description
381	Bearing cartridge	540.01/02	Bush
412.45	O-ring	561	Grooved pin
529	Bearing sleeve	932.04/20	Circlip

Etanorm SYT version with fan impeller



UG2223191_D07_001/03

Fig. 14: Exploded view of Etanorm SYT with fan impeller

Table 35: List of components

Part No.	Description	Part No.	Description
831	Fan impeller	904 ²⁷⁾	Grub screw

²⁷⁾ 904 for bearing bracket WS_25_LS / WS_35_LS (1x), for bearing bracket WS_55_LS (2x)

Glossary

Back pull-out design

The complete back pull-out unit can be pulled out without having to remove the pump casing from the piping.



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