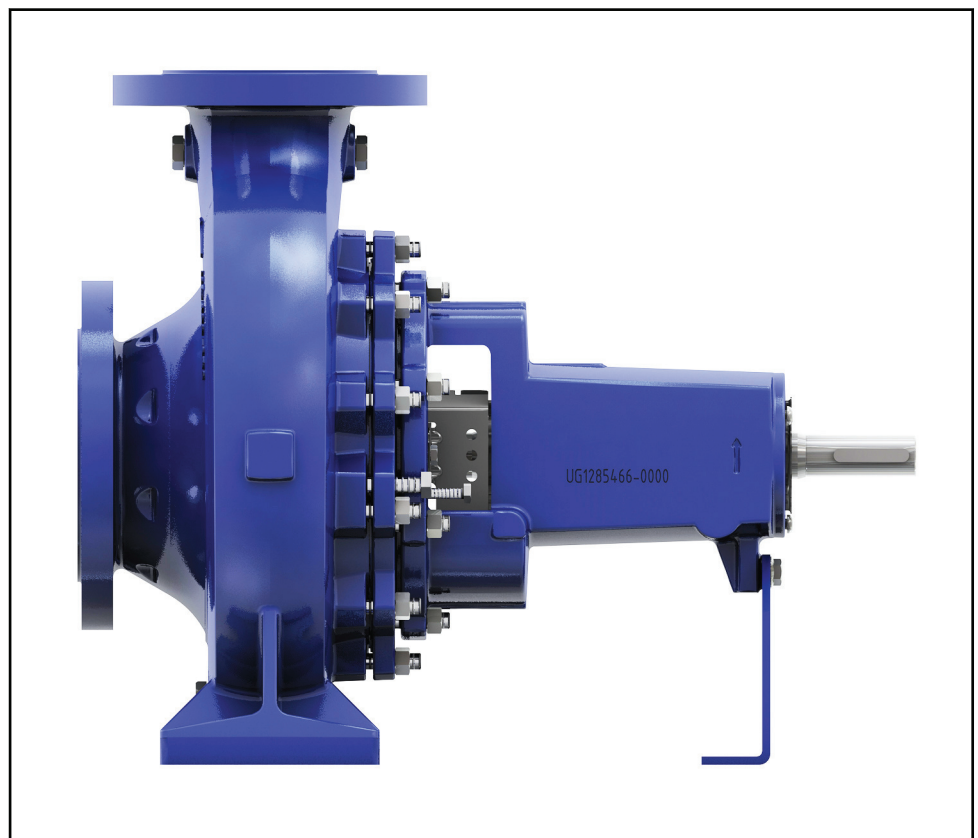


Standardised Water Pump

Etanorm

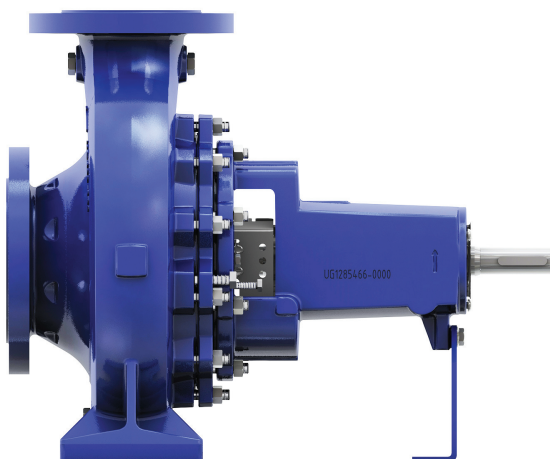
Type Series Booklet



Centrifugal Pumps with Shaft Seal

Standardised Water Pumps

Etanorm



Main applications

Pump for handling clean or aggressive fluids not chemically and mechanically aggressive to the pump materials.

- Water supply systems
- Cooling circuits
- Swimming pools
- Fire-fighting systems
- Irrigation systems
- Drainage systems
- Heating systems
- Air-conditioning systems
- Spray irrigation systems

Fluids handled

- Seawater
- Brackish water
- Drinking water
- Hot water
- Service water
- Fire-fighting water
- Brine
- Cleaning agents
- Condensate
- Oils

Operating data

Operating properties

Characteristic		Value
Flow rate	Q	Up to 660 m³/h (50 Hz) Up to 740 m³/h (60 Hz)
Head	H	Up to 160 m (50 Hz) Up to 160 m (60 Hz)
Operating temperature	t	-30 °C to +140 °C
Operating pressure	p	Up to 16 bar

Materials per country

- A = Europe, Middle East, North Africa
 - A1 = Default material variant
 - A2 = Optional material variant
- B = Asia / India
 - B1 = Default material variant
 - B2 = Optional material variant
- C = South Africa
 - C1 = Default material variant
 - C2 = Optional material variant

Designation

Example: Etanorm 050-032-160 GB X 10

Key to the designation

Code	Description	Region
Etanorm	Type series	A, B, C
050	Nominal suction nozzle diameter [mm]	A, B, C
032	Nominal discharge nozzle diameter [mm]	A, B, C
160	Nominal impeller diameter [mm]	A, B, C
G	Casing material	
G	Cast iron	A, B, C
B	Bronze	A, C ¹⁾
S	Nodular cast iron	A, C ¹⁾
C	Stainless steel	A, C
B	Impeller material if different from casing material	
G	Cast iron	A, B, C
C	Stainless steel	A, B, C
B, I	Bronze	A, B, C
X	Additional code	
X	Special design	A
FX	Fire-fighting pump	A
10	Shaft seal, e.g. Q1 Q1 X4GG	A, C

Design details

Design

- Volute casing pump
- Horizontal installation
- Back pull-out design

1) On request

- Single-stage
- Dimensions and ratings to EN 733
- Complies with the 2009/125/EC Directive

Pump casing

- Radially split volute casing
- Volute casing with integrally cast pump feet²⁾
- Replaceable casing wear rings

Impeller type

- Closed radial impeller with multiply curved vanes

Shaft seal

Shaft seal

Shaft seal design	Region
Gland packing	A, B, C
Single mechanical seals to EN 12756	A, B, C
Double mechanical seals to EN 12756	A, C
Shaft equipped with replaceable shaft protecting sleeve in the shaft seal area	A, B, C

Bearings

Bearings

Bearing design	Region
Standard bearings	A, B, C
– Floating bearings: deep groove ball bearings	
Reinforced bearings	A, B, C
– Floating bearings: deep groove ball bearings	
Bearings with bearing pedestal	C
– Floating bearings: deep groove ball bearings	

Example: WS_25_LS

Bearing bracket designation

Code	Description	Region
WS	Bearing bracket, standardised water pump	A, B, C
25	Size code (based on dimensions of seal chamber and shaft end)	A, B, C
LS	Standard	A, B, C
LR	Reinforced	A, B, C
PS	Bearing pedestal	C

Bearings used

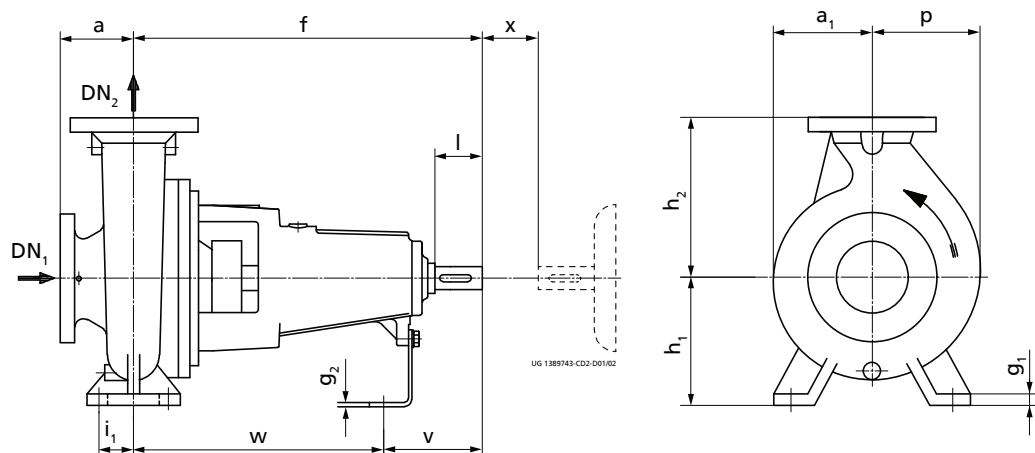
Standard bearings

Design	Bearing bracket	Rolling element bearings		
		Pump end	Drive end	Region
Standard bearings (grease-lubricated)	WS_25_LS	6305 2Z C3	6305 2Z C3	A, B, C
	WS_35_LS	6307 2Z C3	6307 2Z C3	A, B, C
	WS_55_LS	6311 2Z C3	6311 2Z C3	A, B, C
Standard bearings (oil-lubricated)	WS_25_LS	6305 C3	6305 C3	A, B, C
	WS_35_LS	6307 C3	6307 C3	A, B, C
	WS_55_LS	6311 C3	6311 C3	A, B, C
Reinforced bearings (grease-lubricated)	WS_50_LR	6310 2Z C3	6310 2Z C3	A, B, C
	WS_60_LR	6312 2Z C3	6312 2Z C3	A, B, C
Reinforced bearings (oil-lubricated)	WS_50_LR	6310 C3	6310 C3	A, B, C

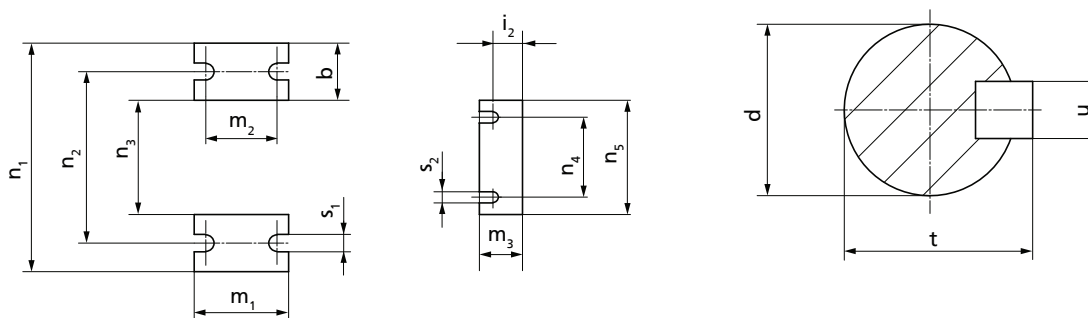
²⁾ Depending on the size, pumps with bearing pedestal have integrally cast pump feet.

Dimensions

Pump with bearing bracket



Pump dimensions



Dimensions of shaft end and pump feet

Dimensions of pump with bearing bracket [mm]

Size	Bearing bracket	Bearing bracket	DN ₁ ²⁰⁾	DN ₂ ²⁰⁾	a ²⁰⁾	a ₁	b ²⁰⁾	d ²⁰⁾	f ²⁰⁾	g ₁	g ₂	h ₁ ²⁰⁾	h ₂ ²⁰⁾	i ₁	i ₂	l ²⁰⁾	m ₁ ²⁰⁾	m ₂
040-025-160	WS_25_LS	-	40	25	80	118	50	24	360	15	4	132	160	35	23	50	100	70
040-025-200	WS_25_LS	-	40	25	80	142	50	24	360	15	4	160	180	35	23	50	100	70
050-032-125.1	WS_25_LS	-	50	32	80	116	50	24	360	15	4	112	140	35	23	50	100	70
050-032-160.1	WS_25_LS	-	50	32	80	116	50	24	360	15	4	132	160	35	23	50	100	70
050-032-200.1	WS_25_LS	-	50	32	80	142	50	24	360	18	4	160	180	35	23	50	100	70
050-032-250.1	WS_25_LS	-	50	32	100	168	65	24	360	18	6	180	225	47,5	25	50	125	95
050-032-125	WS_25_LS	-	50	32	80	115	50	24	360	15	4	112	140	35	23	50	100	70
050-032-160	WS_25_LS	-	50	32	80	118	50	24	360	15	4	132	160	35	23	50	100	70
050-032-200	WS_25_LS	-	50	32	80	142	50	24	360	18	4	160	180	35	23	50	100	70
050-032-250	WS_25_LS	-	50	32	100	169	65	24	360	18	6	180	225	47,5	25	50	125	95
065-040-125	WS_25_LS	-	65	40	80	117	50	24	360	15	4	112	140	35	23	50	100	70
065-040-160	WS_25_LS	-	65	40	80	119	50	24	360	15	4	132	160	35	23	50	100	70
065-040-200	WS_25_LS	-	65	40	100	142	50	24	360	18	4	160	180	35	23	50	100	70
065-040-250	WS_25_LS	-	65	40	100	169	65	24	360	18	6	180	225	47,5	25	50	125	95
065-040-315	WS_35_LS	-	65	40	125	207	65	32	470	18	6	225	250	47,5	24	80	125	95
065-040-315	-	WS_50_LR	65	40	125	207	65	32	500 ²¹⁾	18	6	225	250	47,5	26	80	125	95
065-050-125	WS_25_LS	-	65	50	100	117	50	24	360	18	4	132	160	35	23	50	100	70
065-050-160	WS_25_LS	-	65	50	100	128	50	24	360	18	4	160	180	35	23	50	100	70
065-050-200	WS_25_LS	-	65	50	100	144	50	24	360	18	4	160	200	35	23	50	100	70
065-050-250	WS_25_LS	-	65	50	100	170	65	24	360	18	6	180	225	47,5	25	50	125	95
065-050-315	WS_35_LS	-	65	50	125	207	65	32	470	18	6	225	280	47,5	24	80	125	95
065-050-315	-	WS_50_LR	65	50	125	207	65	32	500 ²¹⁾	18	6	225	280	47,5	26	80	125	95
080-065-125	WS_25_LS	-	80	65	100	117	65	24	360	18	4	160	180	47,5	23	50	125	95
080-065-160	WS_25_LS	-	80	65	100	132	65	24	360	18	4	160	200	47,5	23	50	125	95

²⁰⁾ Dimensions to EN 733

²¹⁾ Dimensions differ from those specified in EN 733

Size	Bearing bracket	Bearing bracket	DN ₁ (20)	DN ₂ (20)	a(20)	a ₁	b(20)	d(20)	f(20)	g ₁	g ₂	h ₁ (20)	h ₂ (20)	i ₁	i ₂	l(20)	m ₁ (20)	m ₂
080-065-200	WS_25_LS	-	80	65	100	155	65	24	360	18	6	180	225	47,5	25	50	125	95
080-065-250	WS_35_LS	-	80	65	100	179	80	32	470	20	6	200	250	60	24	80	160	120
080-065-315	WS_35_LS	-	80	65	125	209	80	32	470	20	6	225	280	60	24	80	160	120
080-065-315	-	WS_60_LR	80	65	125	209	80	42 ²¹⁾	530 ²¹⁾	20	6	225	280	60	26	110	160	120
100-080-160	WS_25_LS	-	100	80	125	138	65	24	360	18	6	180	225	47,5	25	50	125	95
100-080-200	WS_35_LS	-	100	80	125	159	65	32	470	18	4	180	250	47,5	22	80	125	95
100-080-250	WS_35_LS	-	100	80	125	183	80	32	470	18	6	200	280	60	24	80	160	120
100-080-315	WS_35_LS	-	100	80	125	218	80	32	470	20	6	250	315	60	24	80	160	120
100-080-315	-	WS_60_LR	100	80	125	218	80	42 ²¹⁾	530 ²¹⁾	20	6	250	315	60	26	110	160	120
100-080-400	WS_55_LS	-	100	80	125	257	80	42	530	20	6	280	355	60	25	110	160	120
125-100-160	WS_35_LS	-	125	100	125	178	80	32	470	18	6	200	280	60	24	80	160	120
125-100-200	WS_35_LS	-	125	100	125	173	80	32	470	18	6	200	280	60	24	80	160	120
125-100-250	WS_35_LS	-	125	100	140	188	80	32	470	18	6	225	280	60	24	80	160	120
125-100-315	WS_35_LS	-	125	100	140	225	80	32	470	18	6	250	315	60	24	80	160	120
125-100-315	-	WS_60_LR	125	100	140	225	80	42 ²¹⁾	530 ²¹⁾	18	6	250	315	60	26	110	160	120
125-100-400	WS_55_LS	-	125	100	140	255	100	42	530	20	6	280	355	75	25	110	200	150
150-125-200	WS_35_LS	-	150	125	140	189	80	32	470	20	6	250	315	60	24	80	160	120
150-125-250	WS_35_LS	-	150	125	140	226	80	32	470	20	6	250	355	60	24	80	160	120
150-125-315	WS_55_LS	-	150	125	140	243	100	42	530	20	6	280	355	75	25	110	200	150
150-125-400	WS_55_LS	-	150	125	140	277	100	42	530	20	6	315	400	75	25	110	200	150
200-150-200	WS_35_LS	-	200	150	160	240	100	32	470	20	6	280	400	75	24	80	200	150
200-150-250	WS_35_LS	-	200	150	160	230	100	32	470	20	6	280	400	75	24	80	200	150
200-150-315	WS_55_LS	-	200	150	160	255	100	42	530	20	6	280	400	75	25	110	200	150
200-150-400	WS_55_LS	-	200	150	160	289	100	42	530	20	6	315	450	75	25	110	200	150

Dimensions of pump with bearing bracket, continued [mm]

Size	Bearing bracket	Bearing bracket	DN ₁ (20)	DN ₂ (20)	m ₃ (20)	n ₁ (20)	n ₂ (20)	n ₃ (20)	n ₄	n ₅	p	s ₁ (20)	s ₂ (20)	t	u	v	w(20)	x(20)
040-025-160	WS_25_LS	-	40	25	48	240	190	140	110	160	118	14	14	27	8	100	260	100
040-025-200	WS_25_LS	-	40	25	48	240	190	140	110	160	142	14	14	27	8	100	260	100
050-032-125.1	WS_25_LS	-	50	32	48	190	140	90	110	160	116	14	14	27	8	100	260	100
050-032-160.1	WS_25_LS	-	50	32	48	240	190	140	110	160	121	14	14	27	8	100	260	100
050-032-200.1	WS_25_LS	-	50	32	48	240	190	140	110	160	142	14	14	27	8	100	260	100
050-032-250.1	WS_25_LS	-	50	32	48	320	250	190	110	160	168	14	14	27	8	100	260	100
050-032-125	WS_25_LS	-	50	32	48	190	140	90	110	160	115	14	14	27	8	100	260	100
050-032-160	WS_25_LS	-	50	32	48	240	190	140	110	160	128	14	14	27	8	100	260	100
050-032-200	WS_25_LS	-	50	32	48	240	190	140	110	160	143	14	14	27	8	100	260	100
050-032-250	WS_25_LS	-	50	32	48	320	250	190	110	160	178	14	14	27	8	100	260	100
065-040-125	WS_25_LS	-	65	40	48	210	160	110	110	160	117	14	14	27	8	100	260	100
065-040-160	WS_25_LS	-	65	40	48	240	190	140	110	160	134	14	14	27	8	100	260	100
065-040-200	WS_25_LS	-	65	40	48	265	212	165	110	160	155	14	14	27	8	100	260	100
065-040-250	WS_25_LS	-	65	40	48	320	250	190	110	160	179	14	14	27	8	100	260	100
065-040-315	WS_35_LS	-	65	40	48	345	280	215	110	160	207	14	14	35	10	130	340	100
065-040-315	-	WS_50_LR	65	40	48	345	280	215	110	160	207	14	14	35	10	130	370	100
065-050-125	WS_25_LS	-	65	50	48	240	190	140	110	160	130	14	14	27	8	100	260	100
065-050-160	WS_25_LS	-	65	50	48	265	212	165	110	160	149	14	14	27	8	100	260	100
065-050-200	WS_25_LS	-	65	50	48	265	212	165	110	160	163	14	14	27	8	100	260	100
065-050-250	WS_25_LS	-	65	50	48	320	250	190	110	160	186	14	14	27	8	100	260	100
065-050-315	WS_35_LS	-	65	50	48	345	280	215	110	160	215	14	14	35	10	130	340	100
065-050-315	-	WS_50_LR	65	50	48	345	280	215	110	160	215	14	14	35	10	130	370	100
080-065-125	WS_25_LS	-	80	65	48	280	212	150	110	160	150	14	14	27	8	100	260	100
080-065-160	WS_25_LS	-	80	65	48	280	212	150	110	160	160	14	14	27	8	100	260	100
080-065-200	WS_25_LS	-	80	65	48	320	250	190	110	160	178	14	14	27	8	100	260	140
080-065-250	WS_35_LS	-	80	65	48	360	280	200	110	160	199	19	14	35	10	130	340	140
080-065-315	WS_35_LS	-	80	65	48	400	315	240	110	160	229	19	14	35	10	130	340	140
080-065-315	-	WS_60_LR	80	65	48	400	315	240	110	160	229	19	14	45	12	160	370	140
100-080-160	WS_25_LS	-	100	80	48	320	250	190	110	160	174	14	14	27	8	100	260	140
100-080-200	WS_35_LS	-	100	80	48	345	280	215	110	160	188	19	14	35	10	130	340	140
100-080-250	WS_35_LS	-	100	80	48	400	315	240	110	160	209	19	14	35	10	130	340	140
100-080-315	WS_35_LS	-	100	80	48	400	315	240	110	160	242	19	14	35	10	130	340	140
100-080-315	-	WS_60_LR	100	80	48	400	315	240	110	160	242	19	14	45	12	160	370	140
100-080-400	WS_55_LS	-	100	80	48	435	355	275	110	160	280	19	14	45	12	160	370	140
125-100-160	WS_35_LS	-	125	100	48	360	280	200	110	160	225	19	14	35	10	130	340	140
125-100-200	WS_35_LS	-	125	100	48	360	280	200	110	160	212	19	14	35	10	130	340	140
125-100-250	WS_35_LS	-	125	100	48	400	315	240	110	160	219	19	14	35	10	130	340	140
125-100-315	WS_35_LS	-	125	100	48	400	315	240	110	160	255	19	14	35	10	130	340	140
125-100-315	-	WS_60_LR	125	100	48	400	315	240	110	160	255	19	14	45	12	160	370	140
125-100-400	WS_55_LS	-	125	100	48	500	400	300	110	160	283	24	14	45	12	160	370	140
150-125-200	WS_35_LS	-	150	125	48	400	315	240	110	160	242	19	14	35	10	130	340	140
150-125-250	WS_35_LS	-	150	125	48	400	315	240	110	160	275	19	14	35	10	130	340	140
150-125-315	WS_55_LS	-	150	125	48	500	400	300	110	160	280	24	14	45	12	160	370	140
150-125-400	WS_55_LS	-	150	125	48	500	400	300	110	160	309	24	14	45	12	160	370	140
200-150-200	WS_35_LS	-	200	150	48	550	450	350	110	160	316	24	14	35	10	130	340	140
200-150-250	WS_35_LS	-	200	150	48	500	400	300	110	160	300	24	14	35	10	130	340	140

20) Dimensions to EN 733