

X-CLASS HEAVY-DUTY PUMP

**Standardized pump NX for chemicals
DIN EN ISO 2858**

**Standardized Close-coupled plastic
pump BX for chemicals according to
DIN EN ISO 2858**

Features

- X-CLASS is the beginning of a new generation of powerful heavy-duty plastic pumps
- Based on innovative strength and over 60 years of expertise in the use of thermoplastics, we have set a new milestone in the shape of a future-oriented, efficient and reliable pump system. It can withstand anything.
- Chemical pump made of plastic
- Extreme resistance
- Maximum safety
- Long-lived and sturdy
- Significantly improved service life
- Pump in sandwich design (simple assembly)
- The standard pumps for chemicals are also available in a block design under the type designation BX.

www.stuebbe.com/en/products-systems/pumps/



X-CLASS Heavy-Duty Pump – Standardized pump NX for chemicals / Standardized Close-coupled plastic pump BX for chemicals

Use

- for handling aggressive, crystallizing and toxic fluids as well as fluids filled with solids

Customized hydraulic systems

Can be selected according to application:

Semi-open pump impellers (H):

- as a default for smaller pump sizes
- recommended for fluids filled with solids

Closed impellers (G):

- For larger pump sizes

Customized 3-channel non-chokable impellers (F):

- For extreme cases with large solid particles or contamination

All designs are marked with the 3rd letter in the type designation.

Pump variety

- 18 different pump sizes up to 1,000 m³/h for even the most difficult conveying tasks

Maximum safety

- Full sheathing of the thick-walled plastic components, protects the plastic components against UV light, among other things
- The chamber design provides a certain protection in the event of sudden, strong leaks
- Great system safety
- Improved protection against injuries of the operating personnel

Long-lived and sturdy

- Metal chamber design absorbs a significant part of the pipework forces
- Highly resilient fixed/floating bearing (only NX)
- Anti-friction bearings lubricated for life by default
- Reinforced bearing available with grease or oil lubrication
- Sturdy universal shaft for each available end face mechanical seal types
- Chamber design of round seals

ATEX-compliant

According to directive 2014/34/EU (ATEX):

- Unit group II
- Category 2G
- Temperature class T₃ or T₄
- Do not use pump with combustible or explosive fluids

Material variants

Depending on the mechanical, chemical, thermal or abrasive load, several materials are available for different applications:

- UHMW-PE (ultra high molecular low-pressure polyethylene)
- PP-H (homopolymeric polypropylene)
- PVDF (polyvinylidene fluoride)
- PFA / PTFE (perfluoralkoxy / polytetrafluorethylene)

All designs are marked with the 4th letter in the type designation.

Special features

- fully sheathed plastic components
- pressure level PN 16
- self-developed, innovative end face mechanical seal module kit (single- and double-acting), customized for STÜBBE X-Class pump
- ATEX-compliant according to directive 2014/34/EU
- available as close-coupled pump (type designation BX) with its own shaft bearing throughout and flange motor design up to pump size 125-100-200
- Non-chokable design with 3-channel impeller

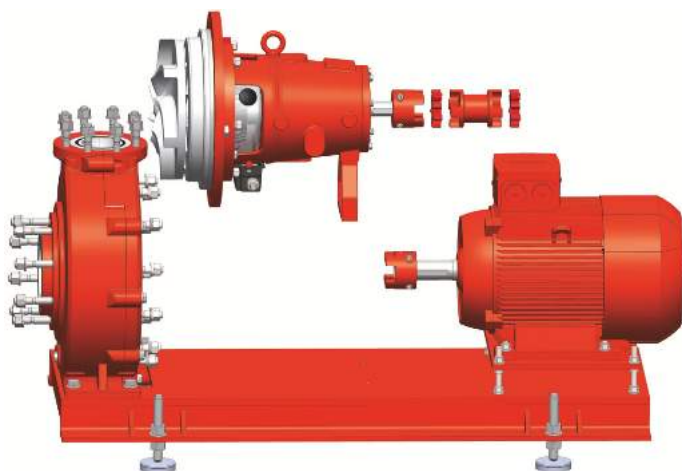
Options

- Draining and rinsing connections
- FDA approval for plastics and auxiliary seals
- conductive plastics available
- customized hydraulic systems on request

X-CLASS Heavy-Duty Pump – Standardized pump NX for chemicals / Standardized Close-coupled plastic pump BX for chemicals

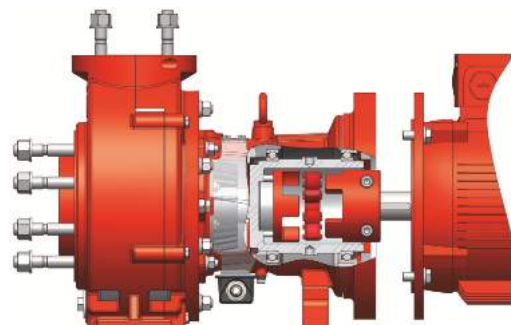
Designs

Pump NX (process design)



- Special design principle, which significantly reduces assembly times during repair work, as neither the pipework connection nor the motor need to be dismantled to remove the bearing support (including the impeller and end face mechanical seal).
- Easy to assemble, clamped double-cardanic coupling facilitates assembly work

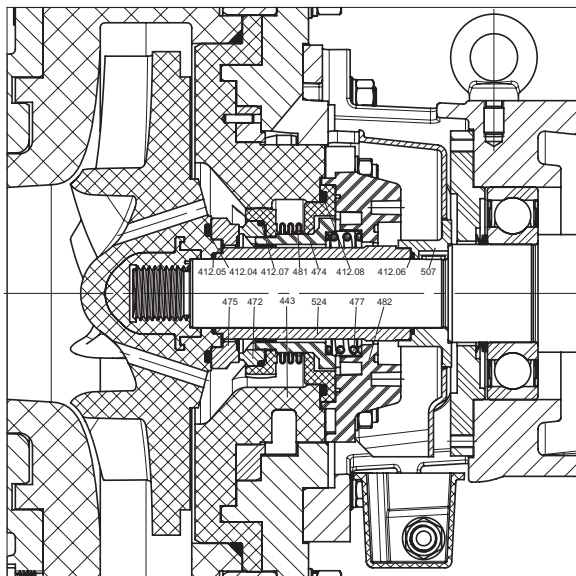
Pump BX (close-coupled pump design)



- The standard pumps for chemicals are also available in a close-coupled pump design under the type designation BX.
- Unlike the design of most competitors, this product series has its own shaft bearing as a special feature all the way through size 125-100-200, making assembly and disassembly comparable to a standard pump, as the pump is not „set up“ on a motor shaft.
- The pump has a hollow shaft, which is pushed into the flange motor.
- An elastic coupling is used for power transmission.
- The design of the BX permits replacement of wear parts without disconnecting the pump housing / pipework connection.

Mechanical seals

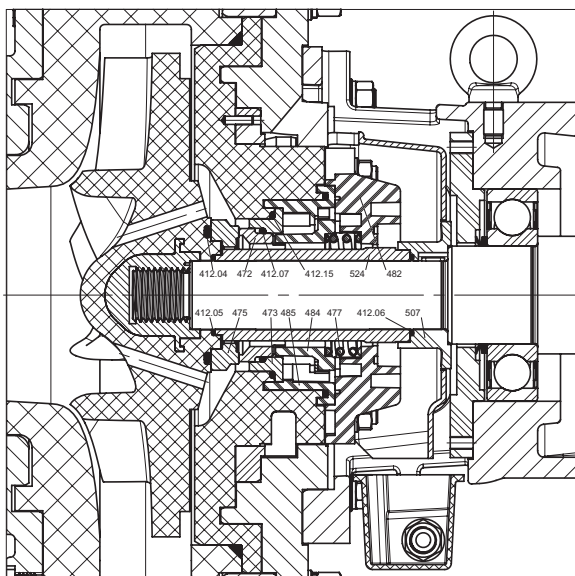
- All available mechanical seals were developed in-house and are based on an innovative mechanical seal module kit to allow flexible responses to any requirements.
- For the single-acting mechanical seal, a bellows version or a high-pressure version for high inlet pressures (up to max. 8 bar) is available, which can be configured with quench and/or permanent or standstill rinsing, if necessary.
- The double-acting STÜBBE mechanical seal also uses the module system and covers particularly difficult applications.



Single-acting PTFE bellows mechanical seal

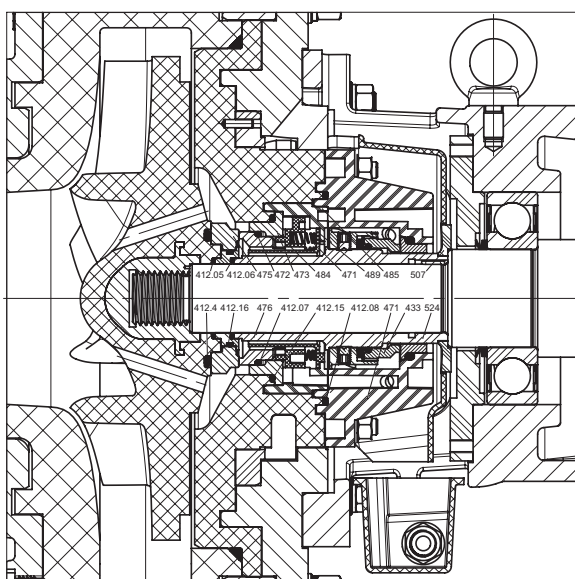
- (PTFE) bellows with spring support
- Universal chemical resistance, as the spring does not touch the fluid
- up to 115 °C and up to 3 bar(g) inlet pressure
- up to 8 bar(g) static pressure
- Torques are transferred at the slide and counter ring via an extremely stable tooth system (not via the clamping system) (high breakaway torque for bonding and adhesion forces)
- Suitable for fluids filled with solids
- Can be configured with quench and/or permanent or standstill rinsing, if necessary

X-CLASS Heavy-Duty Pump – Standardized pump NX for chemicals / Standardized Close-coupled plastic pump BX for chemicals



Single-acting mechanical seal, type UV2

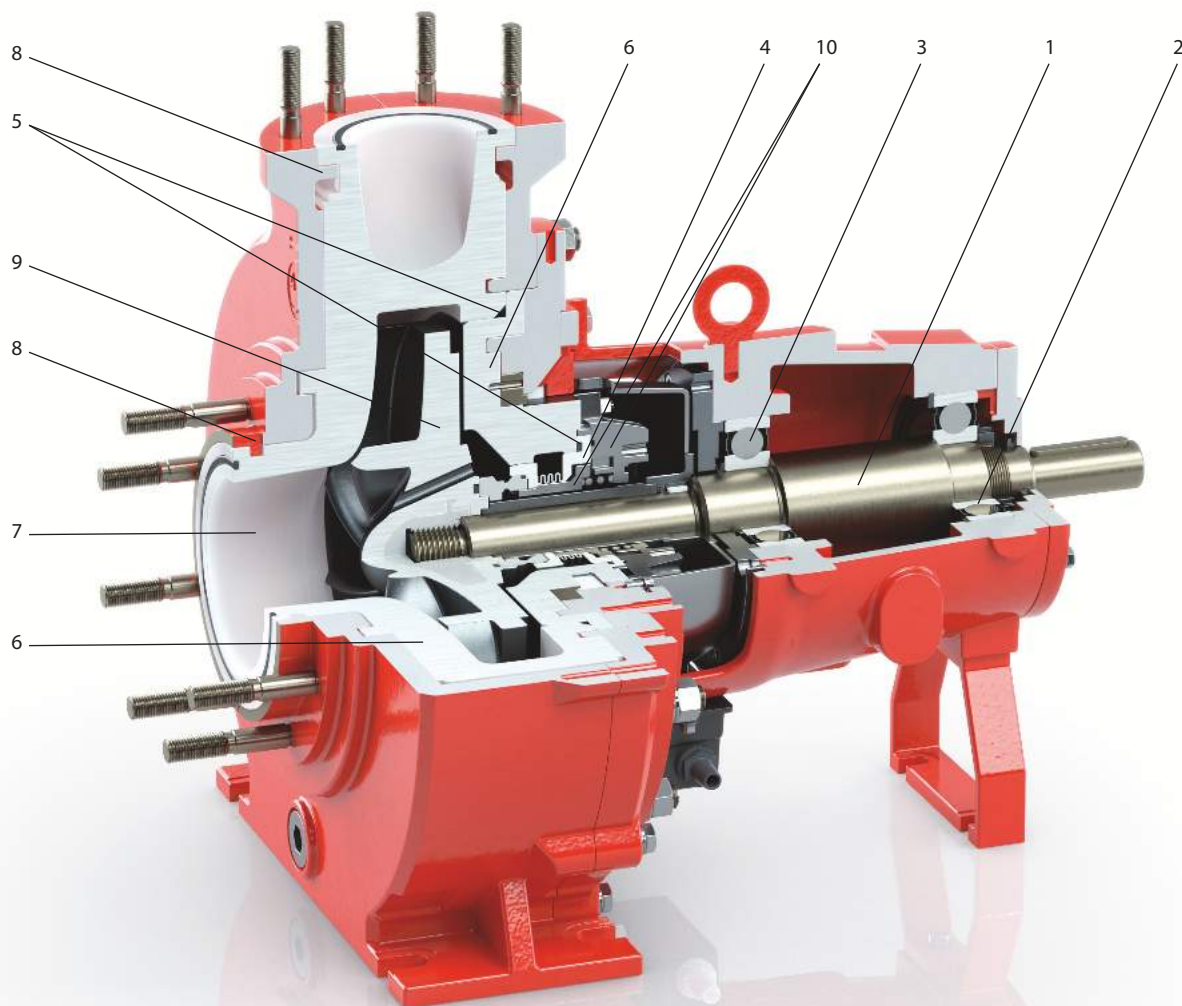
- universal chemical resistance
- high-pressure resistant, single mechanical seal in „REA design“ with sturdy spring
- up to 160 °C and up to 8 bar(g) inlet pressure
- up to 16 bar(g) static pressure
- SSiC counter ring
- SSiC slide ring
- suitable for fluids filled with solids and applications with a high system pressure
- Torques are transferred at the slide and counter ring via an extremely stable tooth system
- Suitable for fluids filled with solids
- Can be configured with quench and/or permanent or standstill rinsing, if necessary



Double-acting mechanical seal, type UV3

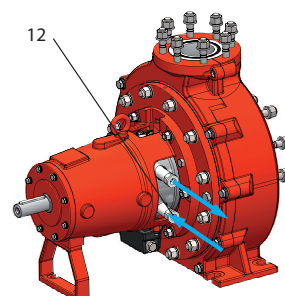
- universal chemical resistance
- high-pressure resistant, double mechanical seal in „REA design“ with sturdy spring
- up to 160 °C and up to 8 bar(g) inlet pressure
- up to 16 bar(g) static pressure
- identical counter ring on the product side as for single-acting mechanical seal-modular principle
- The high-end solution for critical applications (e.g. in all cases where no sealing water or rinsing water may enter the transported fluid)

Sectional drawing



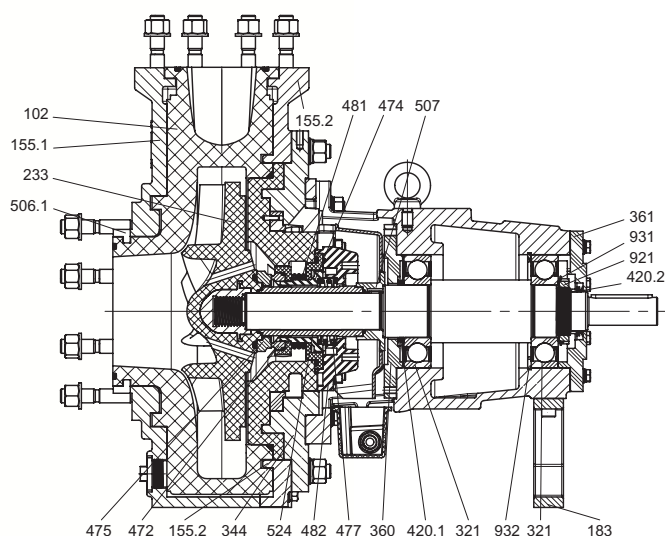
Item	Description
1	Sturdy universal shaft for any end face mechanical seal
2	Sturdy fixed/floating bearing (only NX)
3	Anti-friction bearing lubricated for life (standard)
4	Mechanical sealing with universal chemical resistance (STÜBBE in-house development)
5	Round sealing ring with chamber design
6	Fully metal sheathed plastic components
7	Plastic components individually replaceable
8	Pipework forces are absorbed by metal components
9	Efficient hydraulic system
10	60 years of expertise in the use of thermoplastics

Item	Description
11	DIN/ANSI connections available for delivery
12	All mechanical seal connections always on the side and horizontal Pump in sandwich design (simple assembly) ATEX-compliant according to directive 2014/34/EU, size II, 2G according to T3 or T4

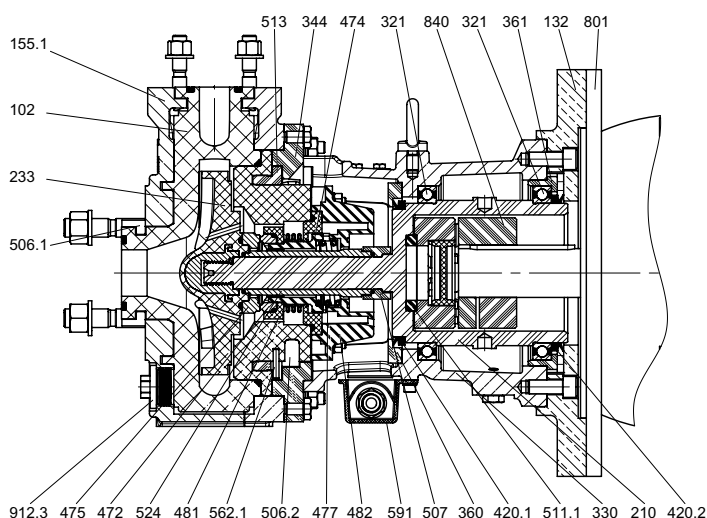


X-CLASS Heavy-Duty Pump – Standardized pump NX for chemicals / Standardized Close-coupled plastic pump BX for chemicals

Sectional drawing standardized pump NX for chemicals



Sectional drawing standardized close-coupled plastic pump BX for chemicals



Item	Description
102	Spiral casing
132	Motor flange adapter
155.1	Reinforced casing
155.2	Reinforced casing
183	Support foot
210	Drive shaft
233	CCW impeller
321	Radial ball bearing
330	Bearing support
344	Bearing carrier support stand
360	Bearing lid, pump side
361	Bearing lid, motor side
420.1	Shaft sealing ring
420.2	Shaft sealing ring
472	Sliding ring
474	Pressure ring
475	Counter ring

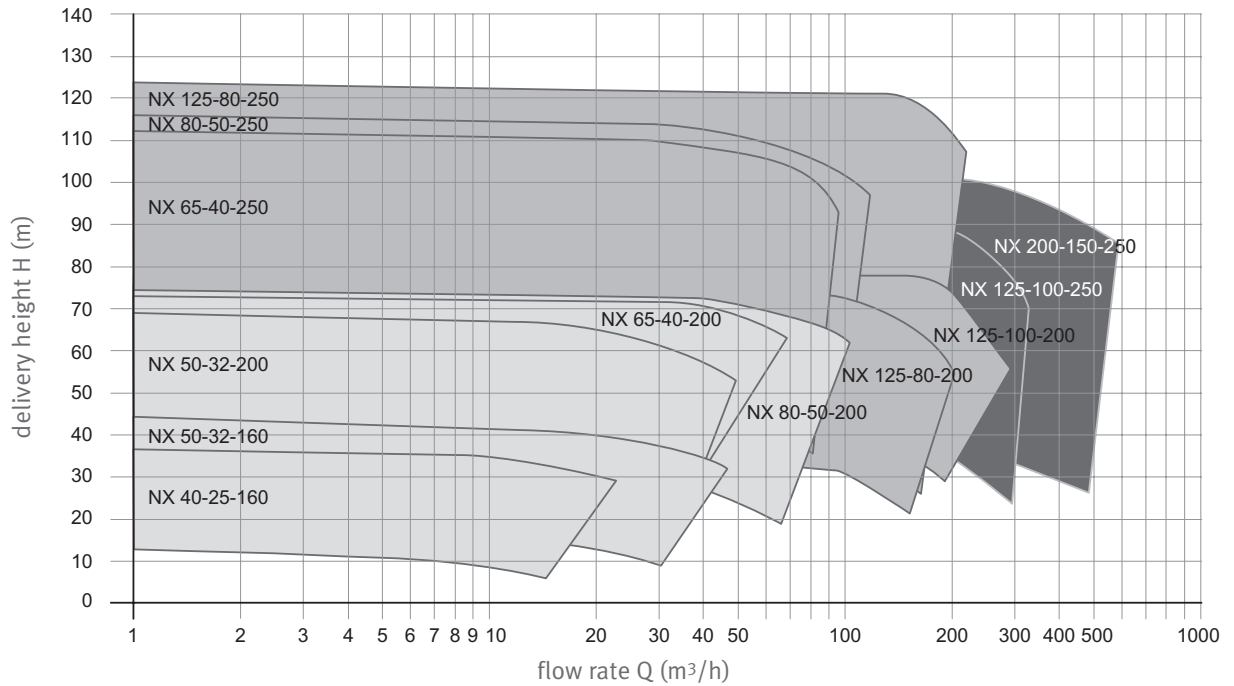
Item	Description
477	Spring
481	Bellows
482	Bellows support
506.1	Retaining ring
506.2	Retaining ring
507	Splash ring
511.1	Centering ring
513	Ring insert
524	Shaft protection sleeve
591	Collecting pan
801	Flange motor
840	Coupling
912.3	Screw plug
921	Shaft nut
931	Securing plate
932	Circlip

X-CLASS Heavy-Duty Pump – Standardized pump NX for chemicals / Standardized Close-coupled plastic pump BX for chemicals

Characteristic curves

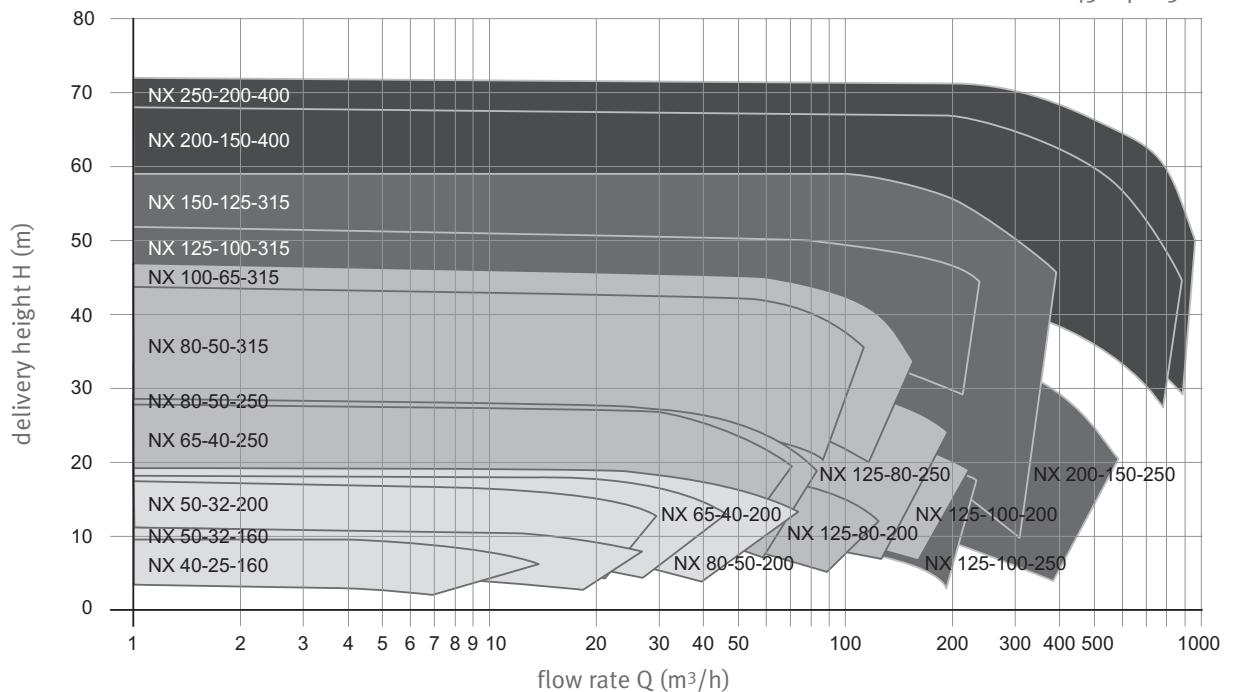
2 poles

2900 rpm 50 Hz



4 poles

1450 rpm 50 Hz



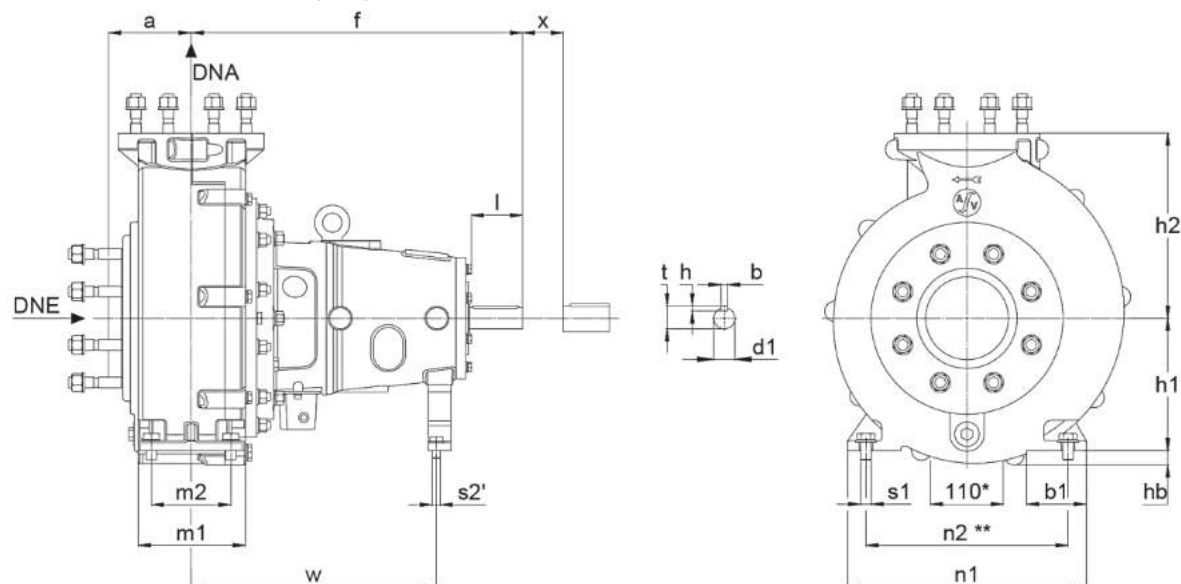
- Bearing support size I
- Bearing support size II
- Bearing support size III
- Bearing support size IV

The sizes 40-25-160, 100-65-315 and 250-200-400 are loosely based on the standard ISO 2858/DIN EN 22858 (trans standard pumps)

X-CLASS Heavy-Duty Pump – Standardized pump NX for chemicals

Dimensions

Dimensions of standardized pump NX for chemicals

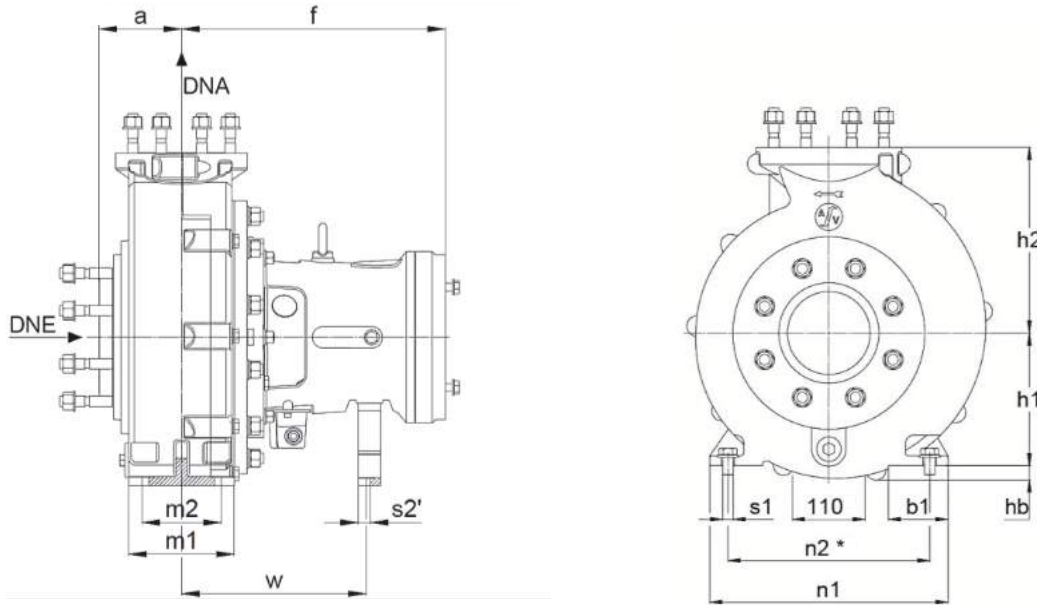


* Dimension 140 for NX 200-150-400 / NX 250-200-400

** Dimension 305 for NX 125-100-200

Size	Pump type	Flange PN 16 according to DIN 2501		Pump dimensions					Base dimensions								Shaft end according to DIN 748					
		DNE	DNA	a	f	h1	h2	hb	b1	m1	m2	n1	n2	s1	s2'	w	x	d1	l	t	h	b
I	NX 40-25-160*	40	25	80	385	132	160	—	50	100	70	240	190	M12	M12	285	100	24	50	27.0	7	8
I	NX 50-32-160	50	32	80	385	132	160	13	50	100	70	240	190	M12	M12	285	100	24	50	27.0	7	8
I	NX 50-32-200	50	32	80	385	160	180	—	50	100	70	240	190	M12	M12	285	100	24	50	27.0	7	8
I	NX 65-40-200	65	40	100	385	160	180	—	50	100	70	265	212	M12	M12	285	100	24	50	27.0	7	8
II	NX 65-40-250	65	40	100	500	180	225	—	65	125	95	320	250	M12	M12	370	100	32	80	35.0	8	10
I	NX 80-50-200	80	50	100	385	160	200	—	50	100	70	265	212	M12	M12	285	100	24	50	27.0	7	8
II	NX 80-50-250	80	50	125	500	180	225	—	65	125	95	320	250	M12	M12	370	100	32	80	35.0	8	10
II	NX 80-50-315	80	50	125	500	225	280	—	65	125	95	345	280	M12	M12	370	100	32	80	35.0	8	10
II	NX 100-65-315*	100	65	125	500	225	280	25	80	160	120	400	315	M16	M12	370	140	32	80	35.0	8	10
II	NX 125-80-200	125	80	125	500	180	250	—	65	125	95	345	280	M12	M12	370	140	32	80	35.0	8	10
II	NX 125-80-250	125	80	125	500	225	280	—	80	160	120	400	315	M16	M12	370	140	32	80	35.0	8	10
II	NX 125-100-200	125	100	125	500	200	280	25	80	160	120	360	305	M16	M12	370	140	32	80	35.0	8	10
III	NX 125-100-250	125	100	140	530	225	280	—	80	160	120	400	315	M16	M12	370	140	42	110	45.0	8	12
III	NX 125-100-315	125	100	140	530	250	315	—	80	160	120	400	315	M16	M12	370	140	42	110	45.0	8	12
III	NX 150-125-315	150	125	140	530	280	355	25	100	200	150	500	400	M20	M12	370	140	42	110	45.0	8	12
III	NX 200-150-250	200	150	160	530	280	375	—	100	200	150	500	400	M20	M12	370	180	42	110	45.0	8	12
IV	NX 200-150-400	200	150	160	670	315	450	—	100	200	150	550	450	M20	M16	500	180	48	110	51.5	9	14
IV+	NX 250-200-400*	250	200	180	720	355	500	—	100	200	150	550	450	M20	M16	500	180	60	110	64.0	11	18

* Trans standard pump

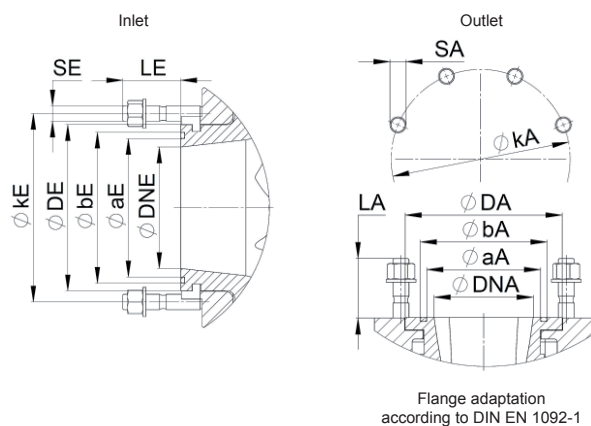
Dimensions of standardized close-coupled plastic pump BX for chemicals


* Dimension 305 for BX 125-100-200

Size	Pump type	Flange PN 16 according to DIN 2501		Pump dimensions					Base dimensions								
		DNE	DNA	a	f	h1	h2	hb	b1	m1	m2	n1	n2	s1	s2'	w	x
I	BX 40-25-160	40	25	80	320	132	160	–	50	100	70	240	190	M12	M12	285	100
I	BX 50-32-160	50	32	80	320	132	160	13	50	100	70	240	190	M12	M12	285	100
I	BX 50-32-200	50	32	80	320	160	180	–	50	100	70	240	190	M12	M12	285	100
I	BX 65-40-200	65	40	100	320	160	180	–	50	100	70	265	212	M12	M12	285	100
II	BX 65-40-250	65	40	100	400	180	225	–	65	125	95	320	250	M12	M12	370	100
I	BX 80-50-200	80	50	100	320	160	200	–	50	100	70	265	212	M12	M12	285	100
II	BX 80-50-250	80	50	125	400	180	225	–	65	125	95	320	250	M12	M12	370	100
II	BX 80-50-315	80	50	125	400	225	280	–	65	125	95	345	280	M12	M12	370	100
II	BX 100-65-315	100	65	125	400	225	280	25	80	160	120	400	315	M16	M12	370	140
II	BX 125-80-200	125	80	125	400	180	250	–	65	125	95	345	280	M12	M12	370	140
II	BX 125-80-250	125	80	125	400	225	280	–	80	160	120	400	315	M16	M12	370	140
II	BX 125-100-200	125	100	125	400	200	280	25	80	160	120	360	305	M16	M12	370	140

X-CLASS Heavy-Duty Pump – Standardized pump NX for chemicals / Standardized Close-coupled plastic pump BX for chemicals – Dimensions

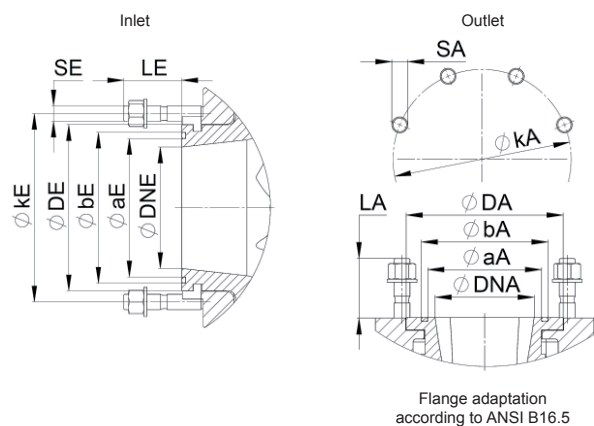
Dimensions spigot standardized pump NX for chemicals DIN / standardized close-coupled plastic pump BX for chemicals DIN



Pump type			Inlet spigot dimensions							Outlet spigot dimensions						
DNE	DNA	Ø	ØaE	ØbE	ØDE	LE	ØkE	ØSE	Quantity	ØaA	ØbA	ØDA	LA	ØkA	ØSA	Quantity
40	25	160	50.5	63.5	79.5	49.5	110	M16	4	34.5	47.5	68	44.5	85	M12	4
50	32	160	63.0	76.0	95.0	49.5	125	M16	4	44.2	57.2	76	49.5	100	M16	4
50	32	200	63.0	76.0	95.0	49.5	125	M16	4	44.2	57.2	76	49.5	100	M16	4
65	40	200	78.5	91.5	107.0	59.5	145	M16	4	50.5	63.5	88	59.5	110	M16	4
65	40	250	78.5	91.5	107.0	59.5	145	M16	4	50.5	63.5	88	59.5	110	M16	4
80	50	200	94.5	107.5	123.0	59.5	160	M16	8	63.0	76.0	97	59.5	125	M16	4
80	50	250	94.5	107.5	123.0	59.5	160	M16	8	63.0	76.0	97	59.5	125	M16	4
80	50	315	94.5	107.5	123.0	59.5	160	M16	8	63.0	76.0	97	59.5	125	M16	4
100	65	315	114.5	127.5	142.0	60.0	180	M16	8	79.0	92.0	117	59.5	145	M16	4
125	80	200	142.5	155.5	171.0	58.0	210	M16	8	94.5	107.5	131	59.5	160	M16	8
125	80	250	142.5	155.5	171.0	60.0	210	M16	8	94.5	107.5	131	59.5	160	M16	8
125	100	200	142.5	155.5	171.0	60.0	210	M16	8	114.5	127.5	158	59.5	180	M16	8
125	100	250	142.5	155.5	171.0	60.0	210	M16	8	114.5	127.5	158	59.5	180	M16	8
125	100	315	142.5	155.5	171.0	60.0	210	M16	8	114.5	127.5	157	59.5	180	M16	8
150	125	315	173.5	186.5	200.0	66.5	240	M20	8	142.5	155.5	185	59.5	210	M16	8
200	150	250	219.0	232.0	256.0	66.5	295	M20	12	174.5	187.5	209	69.5	240	M20	8
200	150	400	219.0	232.0	256.0	66.5	295	M20	12	174.5	187.5	209	69.5	240	M20	8
250	200	400	276.0	289.0	305.0	79.5	355	M24	12	219.0	232.0	260	70.0	295	M20	12

X-CLASS Heavy-Duty Pump – Standardized pump NX for chemicals / Standardized Close-coupled plastic pump BX for chemicals – Dimensions

Dimensions spigot standardized pump NX for chemicals ANSI / standardized close-coupled plastic pump BX for chemicals ANSI



Pump type	Inlet spigot dimensions									Outlet spigot dimensions						
	DNE	DNA	ØaE	ØbE	ØDE	LE	ØKE	ØSE	Quantity	ØaA	ØbA	ØDA	LA	ØKA	ØSA	Quantity
40-25-160	1 1/2"	1"	50,5	63,5	79,5	49,5	98,5	M12	4	34,5	47,5	68	44,5	79,2	M12	4
50-32-160	2"	1 1/4"	63,0	76,0	95,0	49,5	120,6	M16	4	44,2	57,2	76	49,5	88,9	M12	4
50-32-200	2"	1 1/4"	63,0	76,0	95,0	49,5	120,6	M16	4	44,2	57,2	76	49,5	88,9	M12	4
65-40-200	2 1/2"	1 1/2"	78,5	91,5	107,0	59,5	139,7	M16	4	50,5	63,5	88	59,5	98,5	M12	4
65-40-250	2 1/2"	1 1/2"	78,5	91,5	107,0	59,5	139,7	M16	4	50,5	63,5	88	59,5	98,5	M12	4
80-50-200	3"	2"	94,5	107,5	123,0	59,5	152,4	M16	8	63,0	76,0	97	59,5	120,6	M16	4
80-50-250	3"	2"	94,5	107,5	123,0	59,5	152,4	M16	8	63,0	76,0	97	59,5	120,6	M16	4
80-50-315	3"	2"	94,5	107,5	123,0	59,5	152,4	M16	8	63,0	76,0	97	59,5	120,6	M16	4
100-65-315	4"	2 1/2"	114,5	127,5	142,0	60,0	190,5	M16	8	79,0	92,0	117	59,5	139,7	M16	4
125-80-200	5"	3"	142,5	155,5	171,0	60,0	215,9	M20	8	94,5	107,5	131	59,5	152,4	M16	8
125-80-250	5"	3"	142,5	155,5	171,0	60,0	215,9	M20	8	94,5	107,5	131	59,5	152,4	M16	8
125-100-200	5"	4"	142,5	155,5	171,0	60,0	215,9	M20	8	114,5	127,5	158	59,5	190,5	M16	8
125-100-250	5"	4"	142,5	155,5	171,0	60,0	215,9	M20	8	114,5	127,5	158	59,5	190,5	M16	8
125-100-315	5"	4"	142,5	155,5	171,0	60,0	215,9	M20	8	114,5	127,5	157	59,5	190,5	M16	8
150-125-315	6"	5"	173,5	186,5	200,0	66,5	241,3	M20	8	142,5	155,5	185	59,5	215,9	M20	8
200-150-250	8"	6"	219,0	232,0	256,0	66,5	298,4	M20	12	174,5	187,5	209	69,5	241,3	M20	8
200-150-400	8"	6"	219,0	232,0	256,0	66,5	298,4	M20	12	174,5	187,5	209	69,5	241,3	M20	8
250-200-400	10"	8"	276,0	289,0	305,0	79,5	361,9	M24	12	219,0	232,0	260	70,0	298,4	M20	12