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DTN SERIES ASME B73.3

LINED - MAGNETIC DRIVE
CENTRIFUGAL PUMPS

DTN-L ASME

Bare Shaft

Application fields:

- _ Active Pharmaceutical Ingredients Industries
- _ Fine Chemical Processing
- _ Basic Chemical Processing
- _ Petrochemical Processing

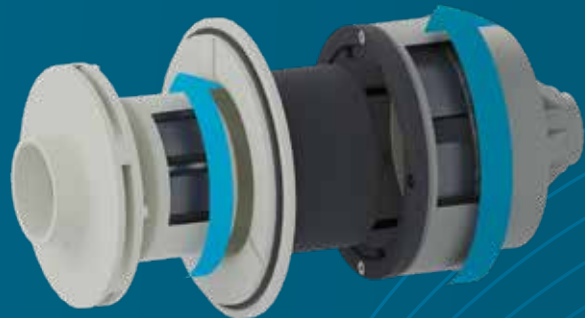


ATEX 100
Directive: 2014/34/EU



Mag drive concept

The synchronous drive configuration is based on an outer magnet ring assembly built to magnetically couple with an inner magnet ring assembly. These two magnet rings are locked together by the flux of attracting magnet poles flowing through the containment isolation shell.



Evolution

The new execution with dynamic shaft guarantees a higher reliability of the pump and lower axial thrust all along the performance curve.

DTN-BL ASME

Close Coupled

Application fields:

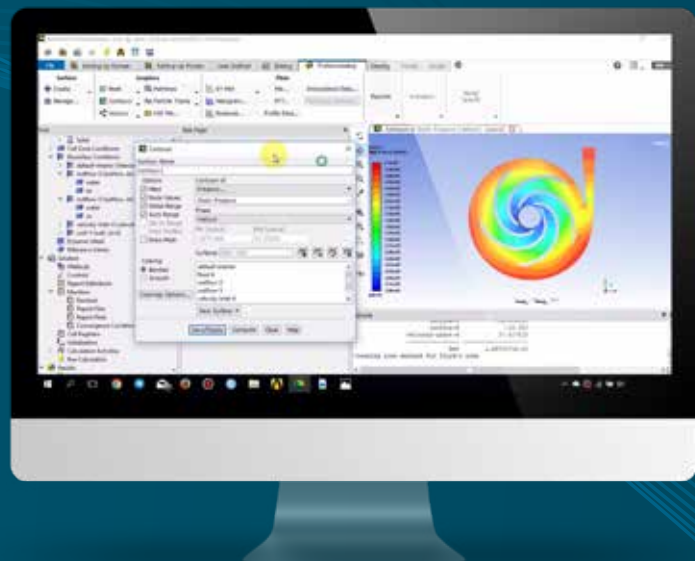
- _ Active Pharmaceutical Ingredients Industries
- _ Basic Chemical Processing
- _ Fine Chemical Processing
- _ Air Treatment - Scrubber
- _ Petrochemical Services



R&D with Fluidodynamic Simulation

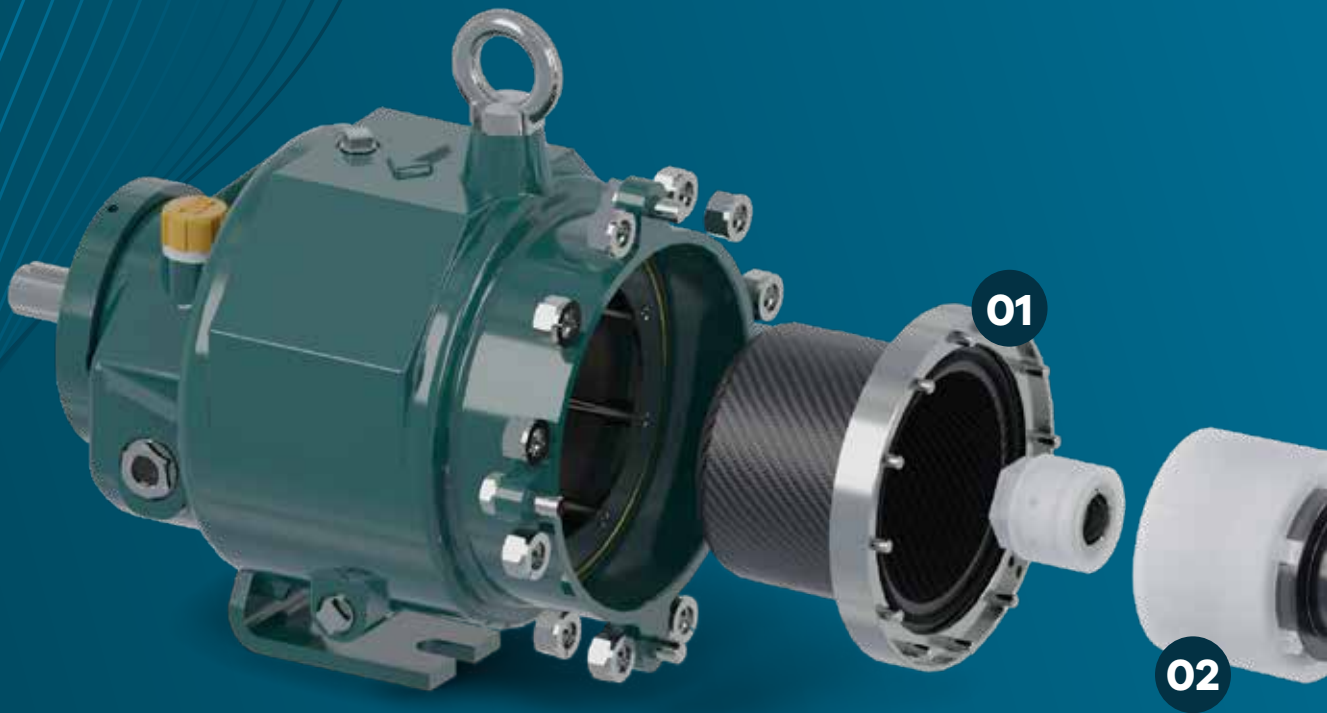
Designed with an innovative simulation software, that permits to obtain high hydraulic performances and efficiency levels near to the physical possible values.

Simulated with **Ansys**



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DTN Series ASME Main features and 3d view



01. Isolation Shell

Thanks to the rotating shaft execution, the **isolation shell** only has the function of pure liquid containment.

02. Internal Magnet

Separate from impeller, it may be replaced individually. Liner thickness is min. 16 in / 4 mm of pure **ETFE** to provide permeation resistance at high temperature and with liquids with very small molecules (**i.e. Hydrofluoric acid**).

Weldings are executed with infrared method, to assure best resistance to permeation.

03. DTN Cartridge Spare Unit

Above unit is provided pre-assembled and permit to reduce downtime to less than 1 hour in case of unexpected failure.

04. RunSafeSIC Advantages

- _ Prevent failures by accidental start-up with empty pump;
- _ Pumps can be used for low-boiling products close to the vapor tension limit;
- _ Pumps also survive accidental un-primings without suffering any major damage;
- _ Safety devices have enough time to stop the pump.

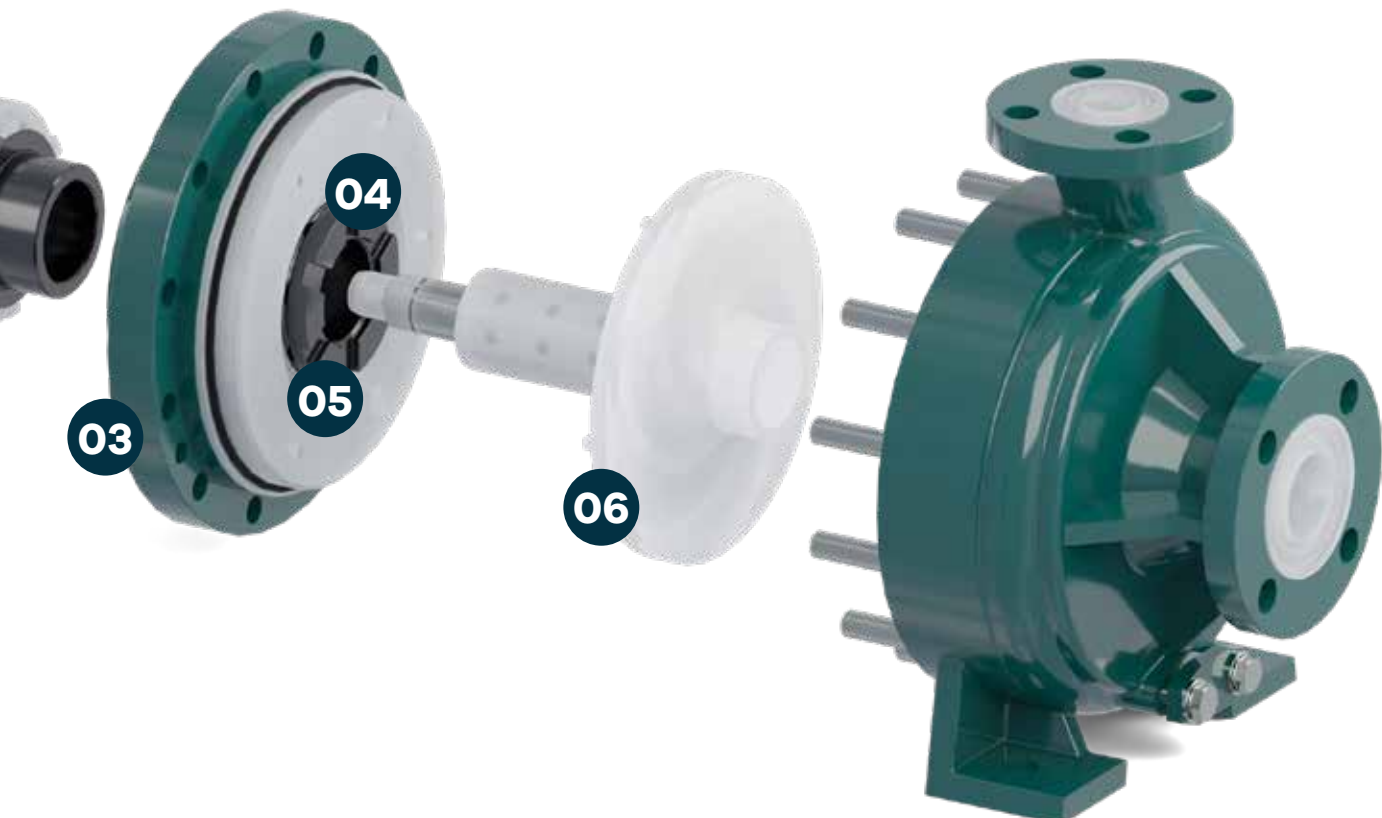
05. Bushes

The static and rotating bushings have simple design and they are very easy to assemble. No need for screws of fixing rings. **Available materials: PTFE SiC, SSiC, RSSiC.**

06. Impeller

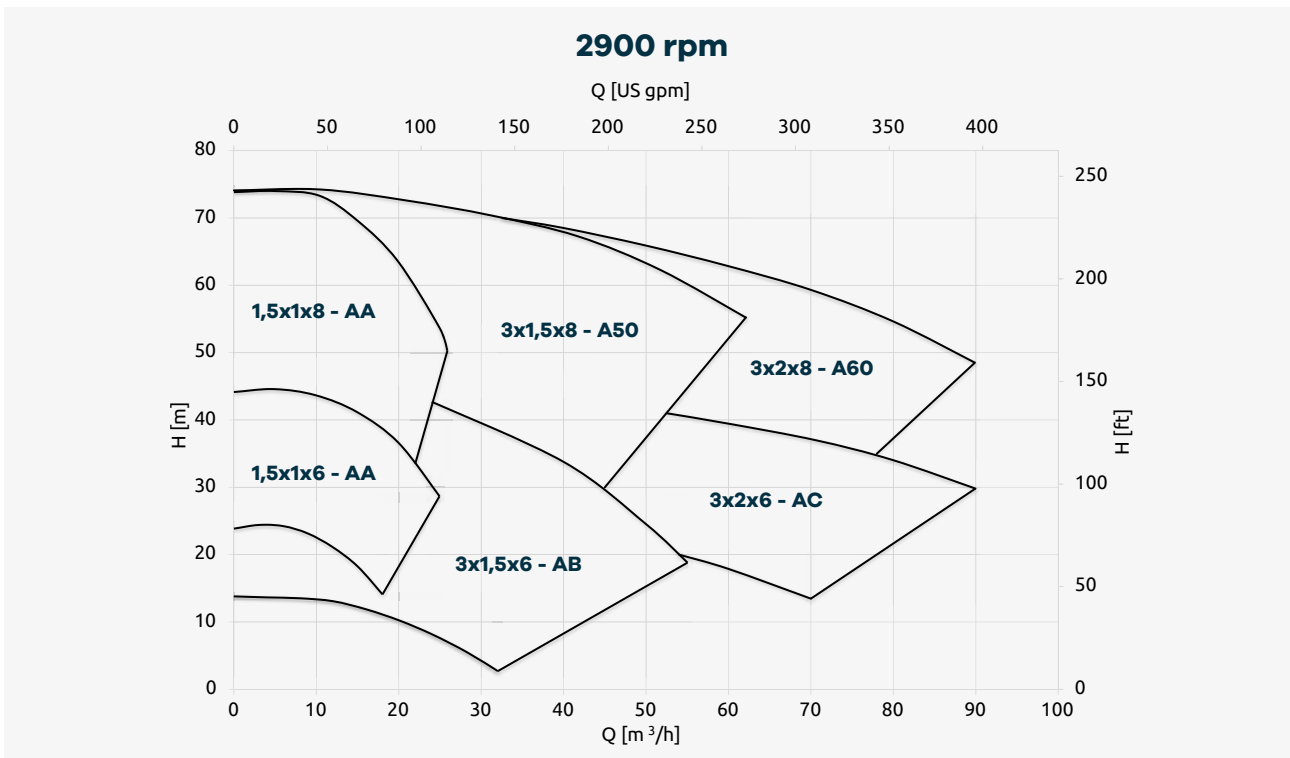
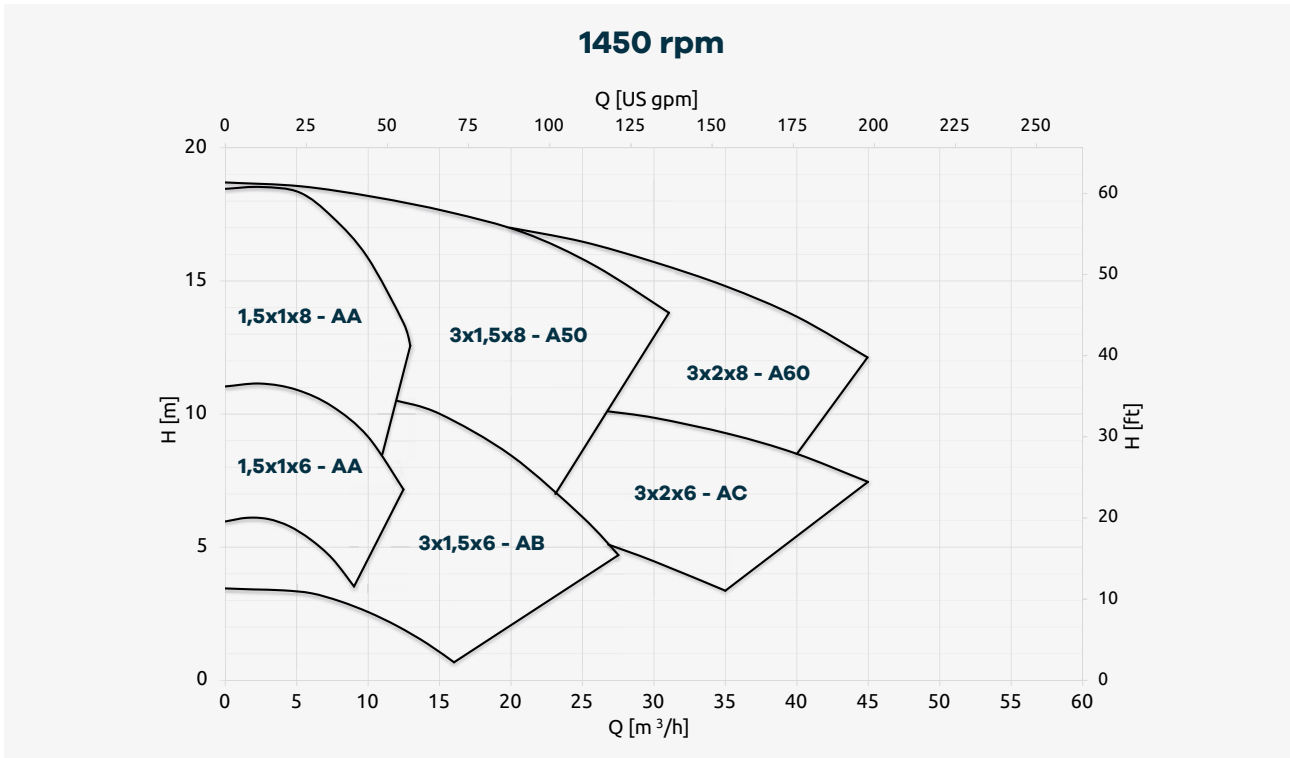
Lined Impeller obtained in 1 piece without welding by **ILS® system**.

- _ Liner stability at high temperature;
- _ Liner stability in case of vacuum



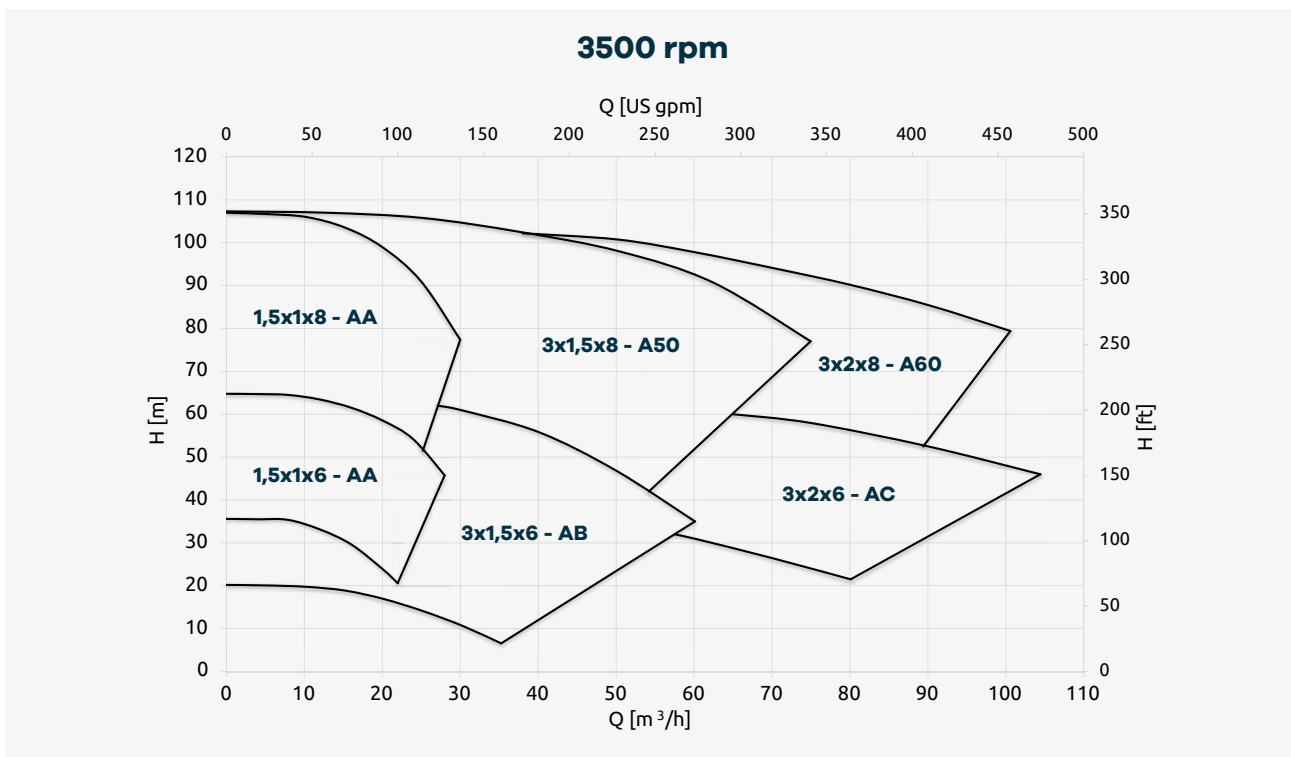
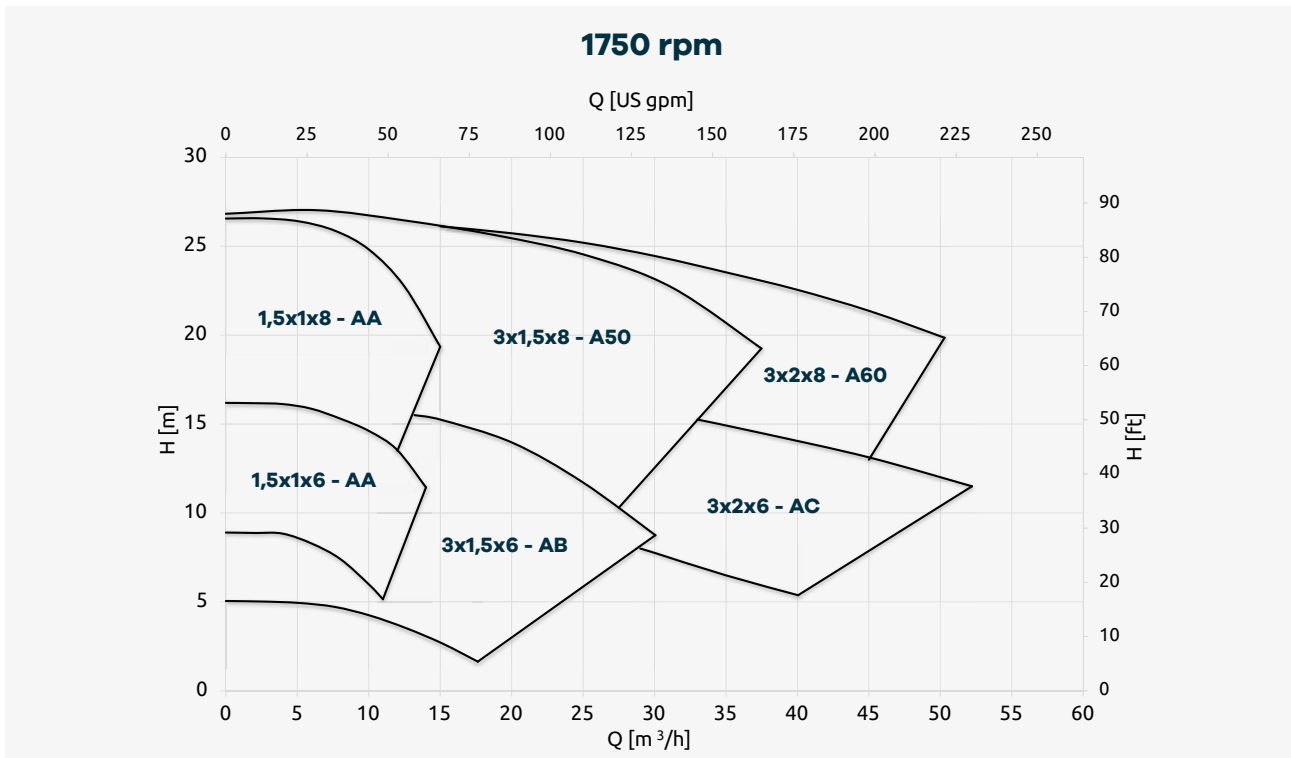
Performance Curves

50 Hz



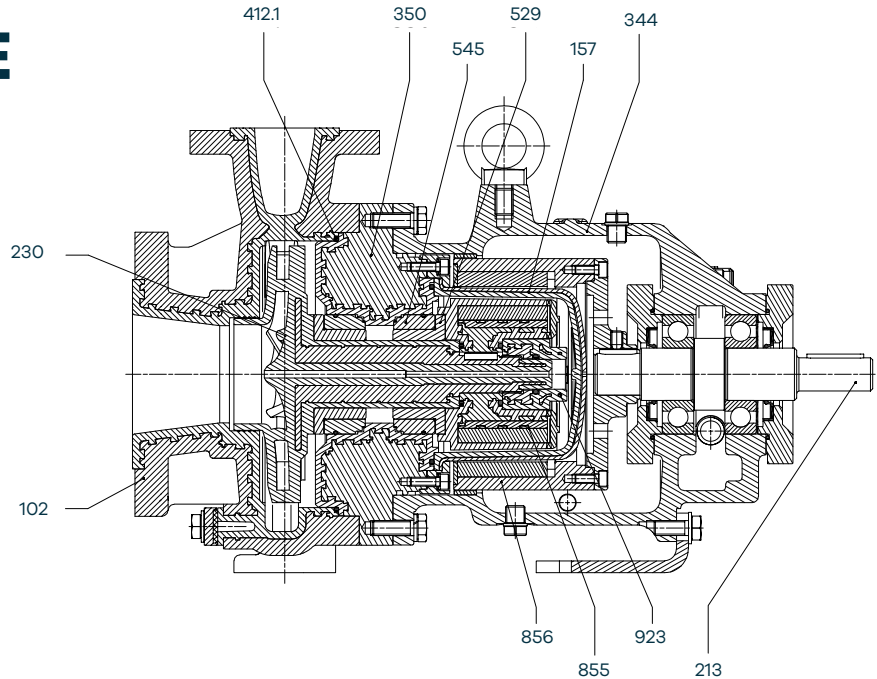
Not binding data refers to water at room temperature.
For specific performance curve contact CDR Pompe S.R.L.

60 Hz



DTN-L ASME

Section drawing



Technical Specifications

Performances 3500 rpm

Q max = 105 m³/h – 462 US gpm
H max = 108 m – 354 ft

Electric Motors

1.5 HP (motor size 143)
30 HP (motor size 286)

Temperature range

- 20°C
+ 120°C

Allowable Pressure Range

16 bar (- 20°C)
10 bar (+ 120°C)

Flange Connections

ASME B16.5 Class 150

Viscosity

min: 1 cSt
max: 150 cSt

Allowable Solids

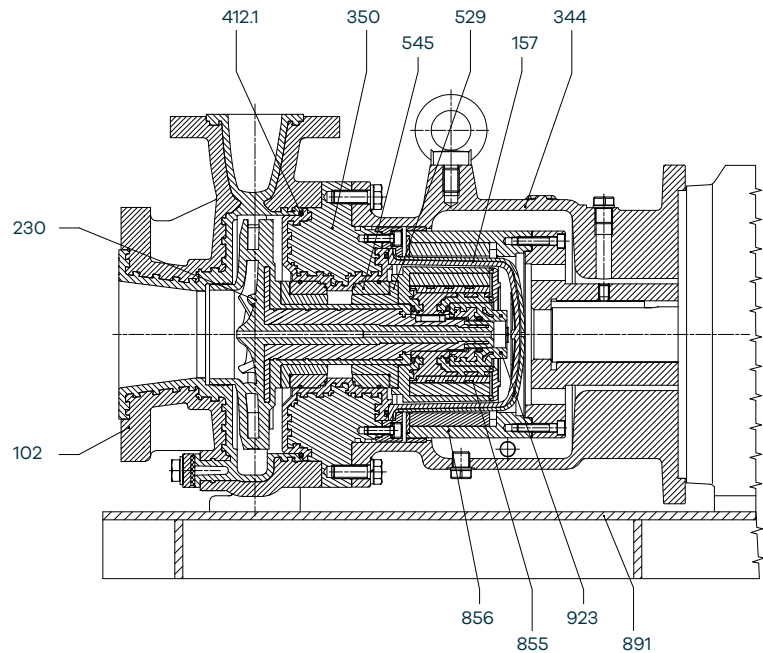
Max concentration: 3 % by weight
Max particle size: 0,01 in (0,25 mm)

Part list

DIN	Component	Material
102	Casing	ETFE lined + Nodular Cast Iron
157	Isolation Shell	ETFE + CF Cover
230	Impeller	ETFE lined
344	Lantern	Cast Iron
350	Bushings Support	ETFE lined
412.1	O-Ring Casing	FPM enc. FEP
529	Rotating Bush	PTFE Filled SSiC \ SSiC \ RunSafe SSiC
545	Static Bush	SSiC \ RunSafe SSiC
855	Inner Magnet	ETFE lined + NdFeB
856	Outer Magnet	Cast Iron + NdFeB
891	Pump foot pad	Steel
923	Locking nut	ETFE lined

DTN-BL ASME

Section drawing



Technical Specifications

Performances 3500 rpm

Q max = 90 m³/h – 400 US gpm
H max = 108 m – 350 ft

Electric Motors

1.5 HP (motor size 143)
30 HP (motor size 286)

Temperature range

- 20°C
+ 120°C

Allowable Pressure Range

16 bar (- 20°C)
10 bar (+ 120°C)

Flange Connections

ASME B16.5 Class 150

Viscosity

min: 1 cSt
max: 150 cSt

Allowable Solids

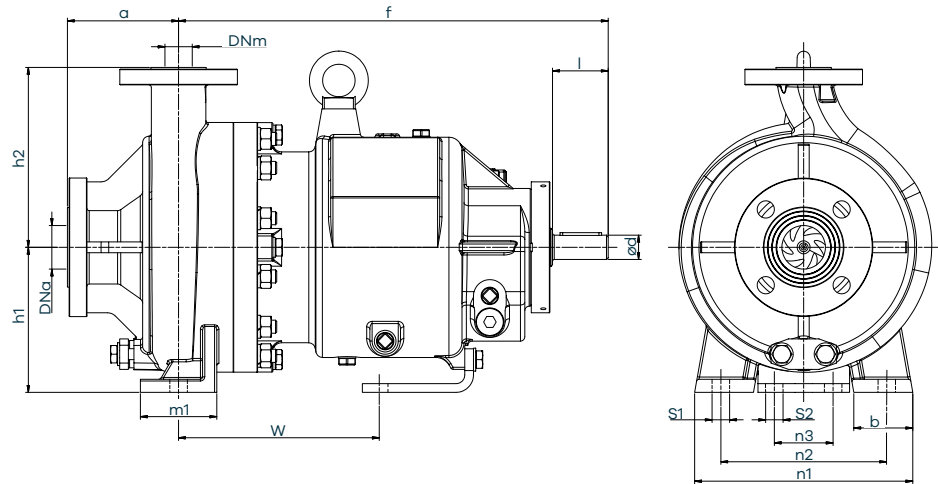
Max concentration: 3 % by weight
Max particle size: 0,01 in (0,25 mm)

Part list

DIN	Component	Material
102	Casing	ETFE lined + Nodular Cast Iron
157	Isolation Shell	ETFE + CF Cover
230	Impeller	ETFE lined
344	Lantern	Cast Iron
350	Bushings Support	ETFE lined
412.1	O-Ring Casing	FPM enc. FEP
529	Rotating Bush	PTFE Filled SSiC \ SSiC \ RunSafe SSiC
545	Static Bush	SSiC \ RunSafe SSiC
855	Inner Magnet	ETFE lined + NdFeB
856	Outer Magnet	Cast Iron + NdFeB
891	Pump foot pad	Steel
923	Locking nut	ETFE lined

DTN-L ASME bare shaft

Overall Dimensions

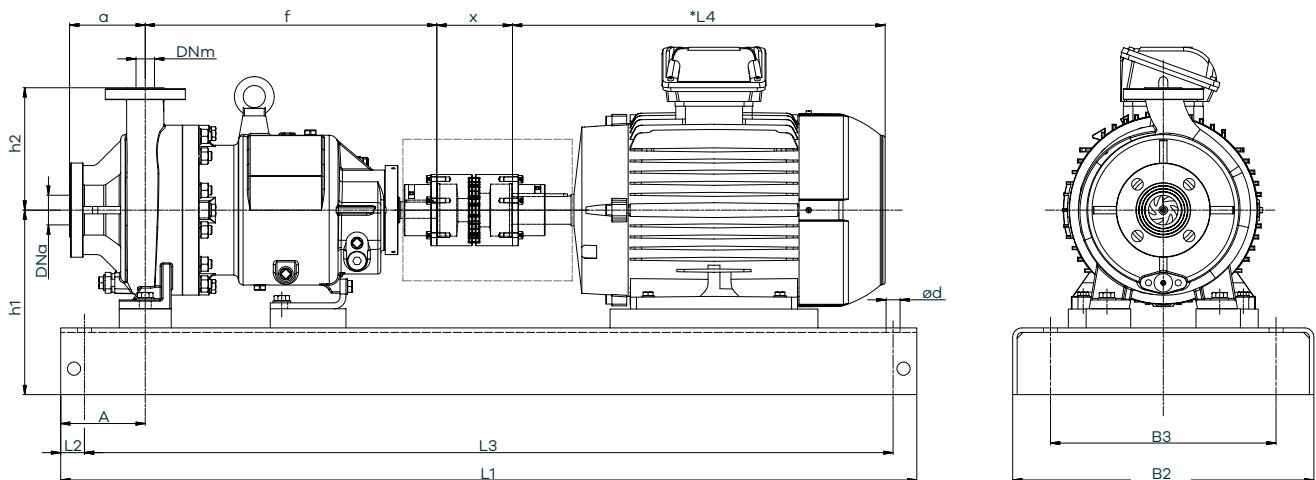


Pump dimensions:

Model	DTN-BL 1.5x1x6 - AA	DTN-BL 3x1.5x6 - AB	DTN-BL 3x2x6 - AC	DTN-BL 1.5x1x8 - AA	DTN-BL 3x1.5x8 - A50	DTN-BL 3x2x8 - A60
DNa	1.5	3	3	1.5	3	3
ASME B16.5 Class 150						
DNm	1	1.5	2	1	1.5	2
ASME B16.5 Class 150						
a In (mm)	4.00 (102)	4.00 (102)	4.00 (102)	4.00 (102)	4.00 (102)	4.00 (102)
b In (mm)	2.16 (55)	2.16 (55)	2.16 (55)	2.16 (55)	2.16 (55)	2.16 (55)
Ød In (mm)	0.875 (22,23)	0.875 (22,23)	0.875 (22,23)	0.875 (22,23)	1.125 (28,58)	1.125 (28,58)
f In (mm)	15.5 (394)	15.5 (394)	15.5 (394)	15.5 (394)	19.5 (495)	19.5 (495)
h1 In (mm)	5.25 (133)	5.25 (133)	5.25 (133)	5.25 (133)	8.25 (210)	8.25 (210)
h2 In (mm)	6.50 (165)	6.50 (165)	6.50 (165)	6.50 (165)	8.50 (216)	9.50 (242)
l In (mm)	2.00 (51)	2.00 (51)	2.00 (51)	2.00 (51)	3.15 (80)	3.15 (80)
m1 In (mm)	2.75 (70)	2.75 (70)	2.75 (70)	2.75 (70)	2.75 (70)	2.75 (70)
n1 In (mm)	7.87 (200)	7.87 (200)	8.15 (207)	7.95 (202)	11.93 (303)	11.93 (303)
n2 In (mm)	6.00 (152)	6.00 (152)	6.00 (152)	6.00 (152)	9.75 (248)	9.75 (248)
n3 In (mm)	x	x	x	x	7.25 (184)	7.25 (184)
S1 In (mm)	0.625 (16)	0.625 (16)	0.625 (16)	0.625 (16)	0.625 (16)	0.625 (16)
S2 In (mm)	0.625 (16)	0.625 (16)	0.625 (16)	0.625 (16)	0.625 (16)	0.625 (16)
W In (mm)	7.25 (184)	7.25 (184)	7.25 (184)	7.25 (184)	12.5 (318)	12.5 (318)
Weight lb (kg)	123 (56)	132 (60)	134 (61)	139 (63)	198 (90)	205 (93)

DTN-L ASME on baseplate

Overall Dimensions



Pump dimensions:

Model	DTN-BL 1.5x1x6 - AA	DTN-BL 3x1.5x6 - AB	DTN-BL 3x2x6 - AC	DTN-BL 1.5x1x8 - AA	DTN-BL 3x1.5x8 - A50	DTN-BL 3x2x8 - A60
DNa	1.5	3	3	1.5	3	3
	ASME B16.5 Class 150					
DNm	1	1.5	2	1	1.5	2
	ASME B16.5 Class 150					
a In (mm)	4.00 (102)	4.00 (102)	4.00 (102)	4.00 (102)	4.00 (102)	4.00 (102)
A In (mm)	4.50 (114)	4.50 (114)	4.50 (114)	4.50 (114)	4.50 (114)	4.50 (114)
f In (mm)	15.5 (394)	15.5 (394)	15.5 (394)	15.5 (394)	19.5 (495)	19.5 (495)
h2 In (mm)	6.50 (165)	6.50 (165)	6.50 (165)	6.50 (165)	8.50 (216)	9.50 (242)
x In (mm)	4.00 (100)	4.00 (100)	4.00 (100)	4.00 (100)	4.00 (100)	4.00 (100)
H. mot. 143÷145	8.25 (209)	8.25 (209)	8.25 (209)	8.25 (209)	x	x
H. mot. 182÷184	8.25 (209)	8.25 (209)	8.25 (209)	8.25 (209)	11.25 (286)	11.25 (286)
H. mot. 213÷256	9.75 (248)	9.75 (248)	9.75 (248)	9.75 (248)	11.75 (299)	11.75 (299)
H. mot. 284÷286	x	x	11.35 (288)	11.35 (288)	12.60 (320)	12.60 (320)
Weight lb (kg) (w/o baseplate and motor)	123 (56)	132 (60)	134 (61)	139 (63)	198 (90)	205 (93)

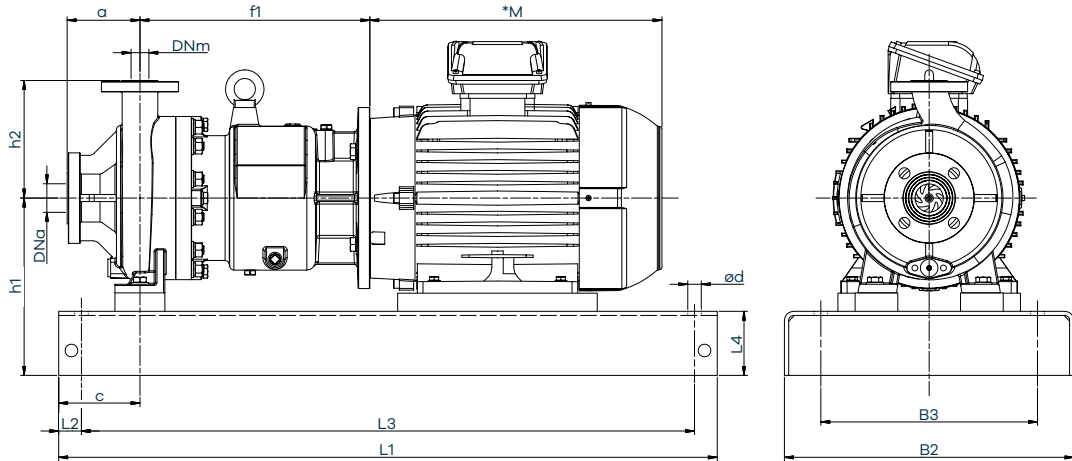
Baseplate dimensions:

Motor Size	B2 In (mm)	B3 In (mm)	L1 In (mm)	L2 In (mm)	L3 In (mm)	Ød In (mm)	Baseplate Weight w/o motor lb (kg)
143 ÷ 145	13.00 (330)	9.00 (228)	39.00 (991)	1.25 (32)	36.50 (927)	0.75 (19)	77 (35)
182 ÷ 184	13.00 (330)	9.00 (228)	50.00 (1270)	1.25 (32)	47.5 (1206)	0.75 (19)	106 (48)
213 ÷ 256	16.00 (406)	12.00 (304)	57.00 (1448)	1.25 (32)	54.5 (1384)	0.75 (19)	159 (72)
284 ÷ 286	19.00 (482)	15.00 (382)	63.00 (1600)	1.25 (32)	60.5 (1536)	1.00 (25)	205 (93)

*L4 dimension is according to installed motor manufacturer.

DTN-BL ASME

Overall Dimensions



Pump dimensions:

Model	DTN-BL 1.5x1x6 - AA	DTN-BL 3x1.5x6 - AB	DTN-BL 3x2x6 - AC	DTN-BL 1.5x1x8 - AA	DTN-BL 3x1.5x8 - A50	DTN-BL 3x2x8 - A60
DNa	1.5	3	3	1.5	3	3
ASME B16.5 Class 150						
DNm	1	1.5	2	1	1.5	2
ASME B16.5 Class 150						
a In (mm)	4.00 (102)	4.00 (102)	4.00 (102)	4.00 (102)	4.00 (102)	4.00 (102)
c In (mm)	4.50 (114)	4.50 (114)	4.50 (114)	4.50 (114)	4.50 (114)	4.50 (114)
h2 In (mm)	6.50 (165)	6.50 (165)	6.50 (165)	6.50 (165)	8.50 (216)	9.50 (242)
h1 mot. 143+145	8.25 (209)	8.25 (209)	8.25 (209)	8.25 (209)	x	x
h1 mot. 182+184	8.25 (209)	8.25 (209)	8.25 (209)	8.25 (209)	11.25 (286)	11.25 (286)
h1 mot. 213+256	9.75 (248)	9.75 (248)	9.75 (248)	9.75 (248)	11.75 (299)	11.75 (299)
h1 mot. 284+286	x	x	11.35 (288)	11.35 (288)	12.60 (320)	12.60 (320)
h2 mot. 143+145	11.25 (286)	11.25 (286)	11.25 (286)	11.25 (286)	x	x
h2 mot. 182+184	12.75 (322)	12.75 (322)	12.75 (322)	12.75 (322)	13.50 (343)	13.50 (343)
h2 mot. 213+256	12.75 (322)	12.75 (322)	12.75 (322)	12.75 (322)	13.50 (343)	13.50 (343)
h2 mot. 284+286	x	x	13.30 (338)	13.30 (338)	14.10 (358)	14.10 (358)
Weight lb (kg) (w/o baseplate and motor)	110 (50)	119 (54)	143 (65)	148 (67)	185 (84)	192 (87)

Baseplate dimensions:

Motor Size	B2 In (mm)	B3 In (mm)	L1 In (mm)	L2 In (mm)	L3 In (mm)	L4 In (mm)	Ød In (mm)	Baseplate Weight w/o motor lb (kg)
143 ÷ 145	13.00 (330)	9.00 (228)	32.00 (813)	1.25 (32)	29.50 (749)	3.00 (76)	0.75 (19)	55 (25)
182 ÷ 184	13.00 (330)	9.00 (228)	32.00 (813)	1.25 (32)	29.50 (749)	3.00 (76)	0.75 (19)	57 (26)
213 ÷ 256	16.00 (406)	12.00 (304)	41.00 (1041)	1.25 (32)	38.50 (977)	3.50 (90)	0.75 (19)	97 (44)
284 ÷ 286	19.00 (482)	15.00 (382)	46.00 (1168)	1.25 (32)	43.50 (1104)	4.34 (110)	1.00 (25)	132 (60)

*M dimension is according to installed motor manufacturer.





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Technical characteristics:

The data and technical characteristics shown in the General Catalogue are not binding. CDR Pompe SRL reserves the right to implement changes without notice. Therefore the data, the size, performance and any other information reported are indicative and not binding. For any technical details you can request the product update form.