

AC-FT SERIES

STANDARDISED EN733 PUMP - HEAT-TRANSFER FLUIDS

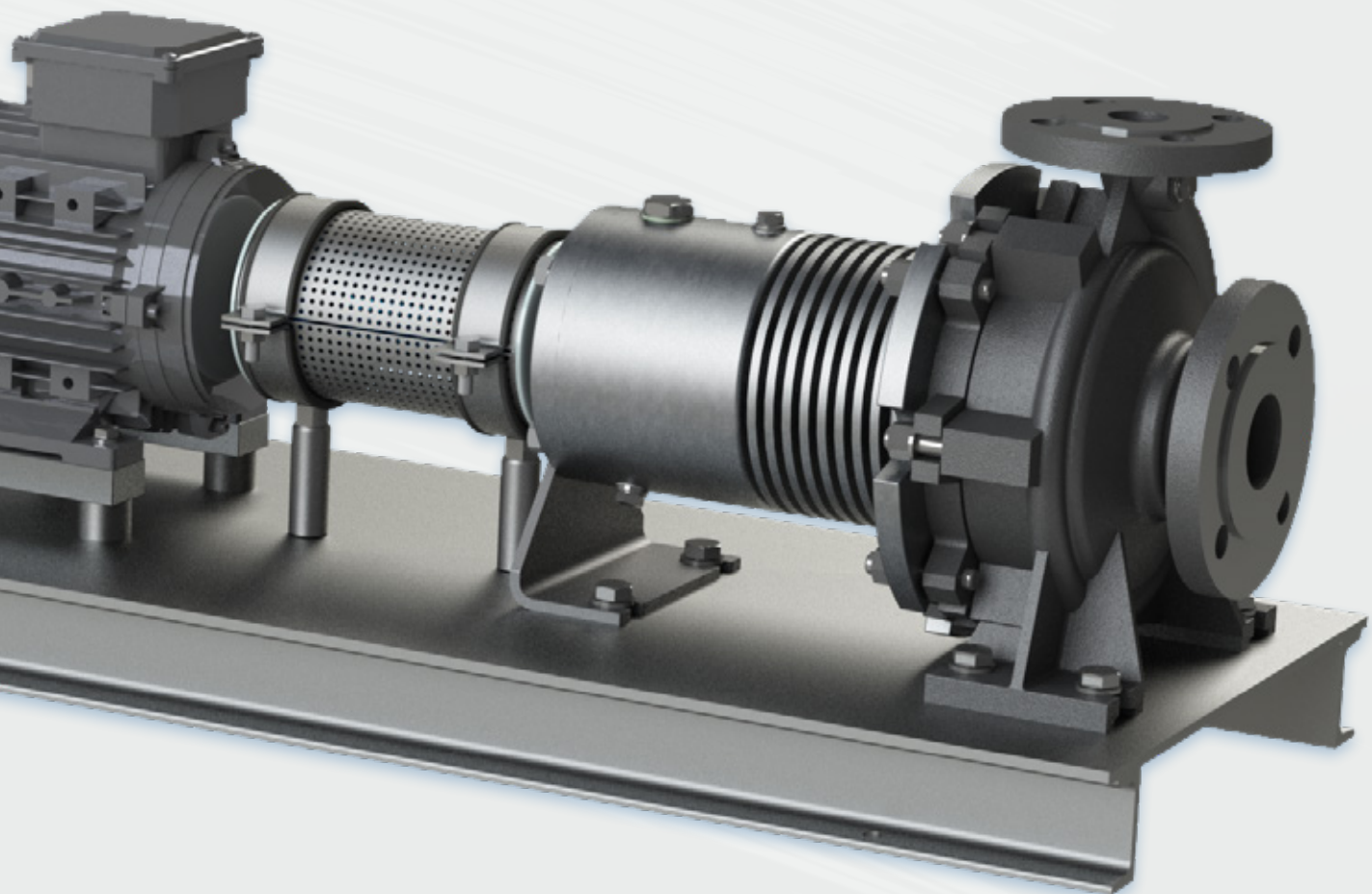
SPECIFICATIONS

DESIGN

SPARE PARTS

DIMENSIONS

PERFORMANCE CURVES



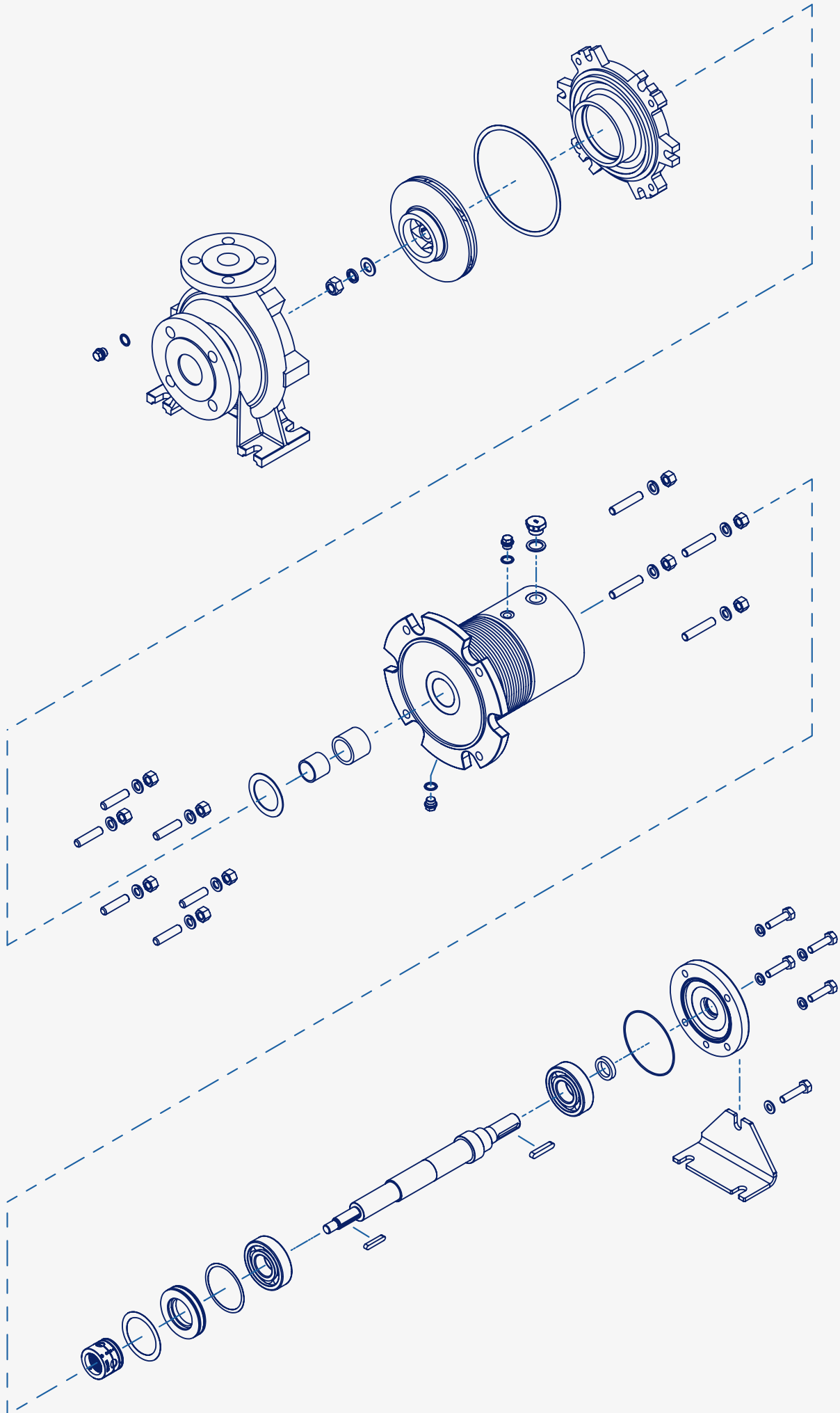


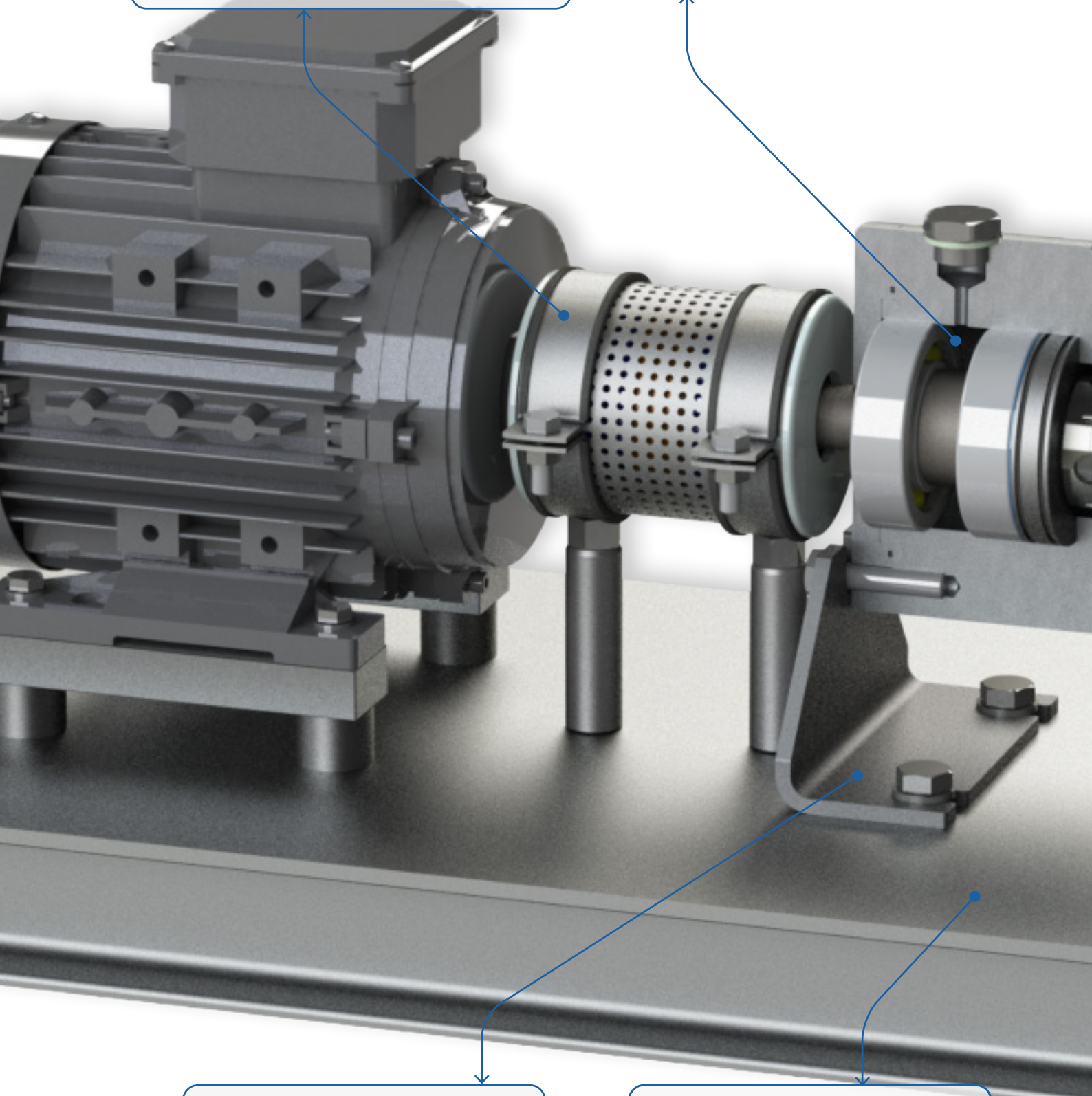
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As standard, an elastic coupling with spacer is mounted, allowing a Back Pull-Out system. On request, the pump can be supplied with a simple elastic coupling.

The pump integrates an oil-lubricated bearing housing, away from the high temperature zone.

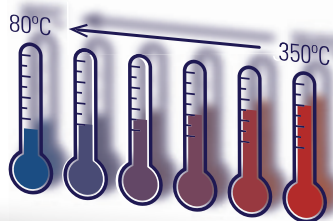


Rear support leg that supports the bearing housing and maintains the correct alignment of the shaft along the assembly.

Easy-Installation baseplate specially designed for dampening vibrations and keeping the shaft properly aligned.

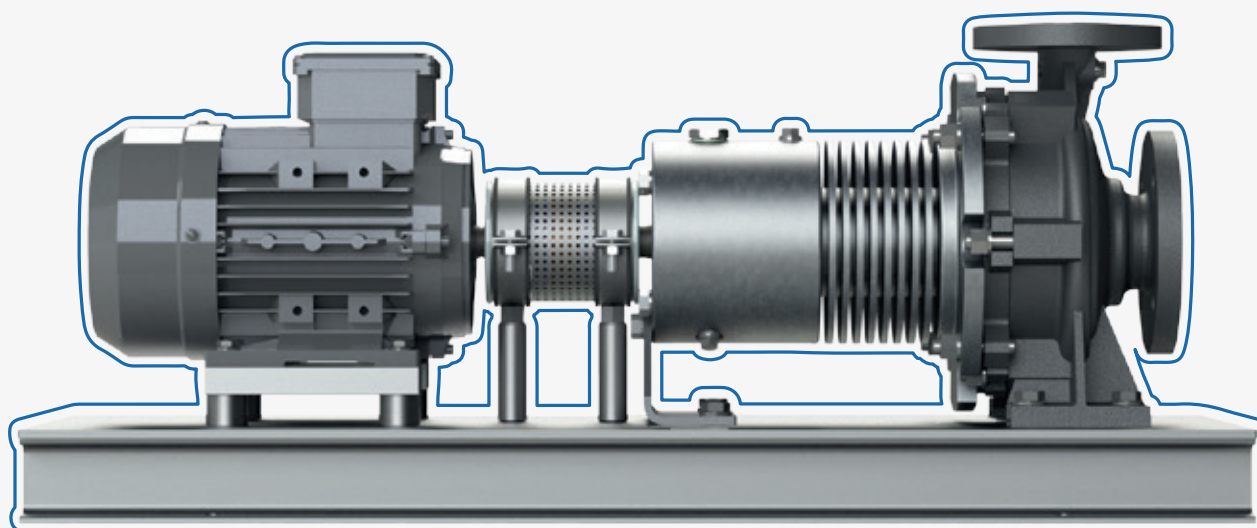
Simple mechanical seal NV-2 Type (EN12756) with independent direction of rotation. Cylindrical spring and trawling by set screws. Robust and adaptable design.

Pump casing in GGG-40. Hydraulics according to EN733 (DIN24255). Maximum temperature of 350°C.



Finned heatsink casing to ensure a proper temperature on the mechanical sealing and bearing bracket zone.

Integrated supporting legs to ensure greater stability against the pipe loading.



AC-FT Series

The AC-FT Series comprises a set of centrifugal pumps with axial suction and radial discharge, according to the EN733 (DIN 24255) standards. They are specially designed to operate in heat-transfer fluid applications up to 350°C.

Specifications

Materials

Pump casing	GGG-40 Ductile cast iron
Impeller	GG-20 Cast iron
Pump shaft	F-114/AISI 316
Heatsink casing	Ductile cast iron
Mechanical seal	NV-2 Type (EN12756)
Bearings	Standard ball bearings

Technical data

Motor	Three-pase according to IEC standards
Efficiency	- IE2 o IE3 for powers > 1 HP - IE1 if the power < 1 HP - It can be supplied up to IE5.
Tension	- Three-pase 230/400 V $\pm$ 10% up to 5,5 HP - Three-pase 400/690 V $\pm$ 10% from 7,5 HP
Poles	2 or 4 depending on the model
Level of protection	IP55
Insulation	F Class

Usage limits

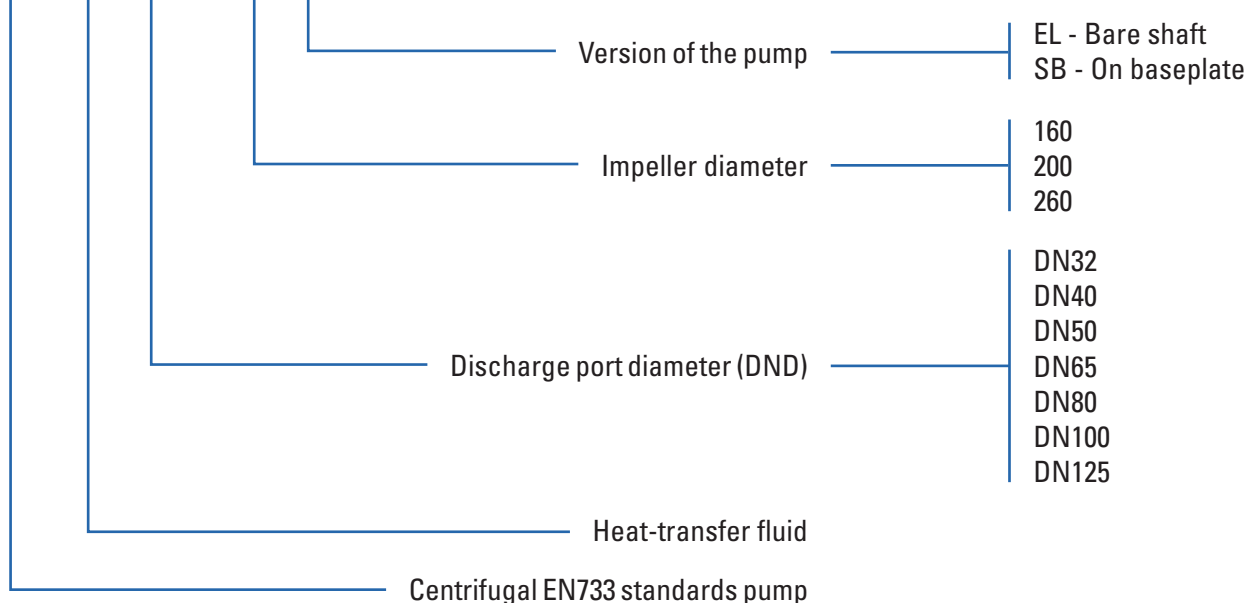
Range of flow rates	From 10 up to 600 m ³ /h
Range of pressures	From 4 up to 14 bar
Max. working pressure	16 bar
Max. working temperature	350°C

Connections

DNS	32-160/200 40-160/200/260 50-160/200/260 65-160/200 80-160/200/260 100-200/260 125-260	DN50 Flange DN65 Flange DN65 Flange DN80 Flange DN100 Flange DN125 Flange DN150 Flange
DND	32-160/200 40-160/200/260 50-160/200/260 65-160/200 80-160/200/260 100-200/260 125-260	DN32 Flange DN40 Flange DN50 Flange DN65 Flange DN80 Flange DN100 Flange DN125 Flange

Nomenclature

AC-FT 32-160 EL

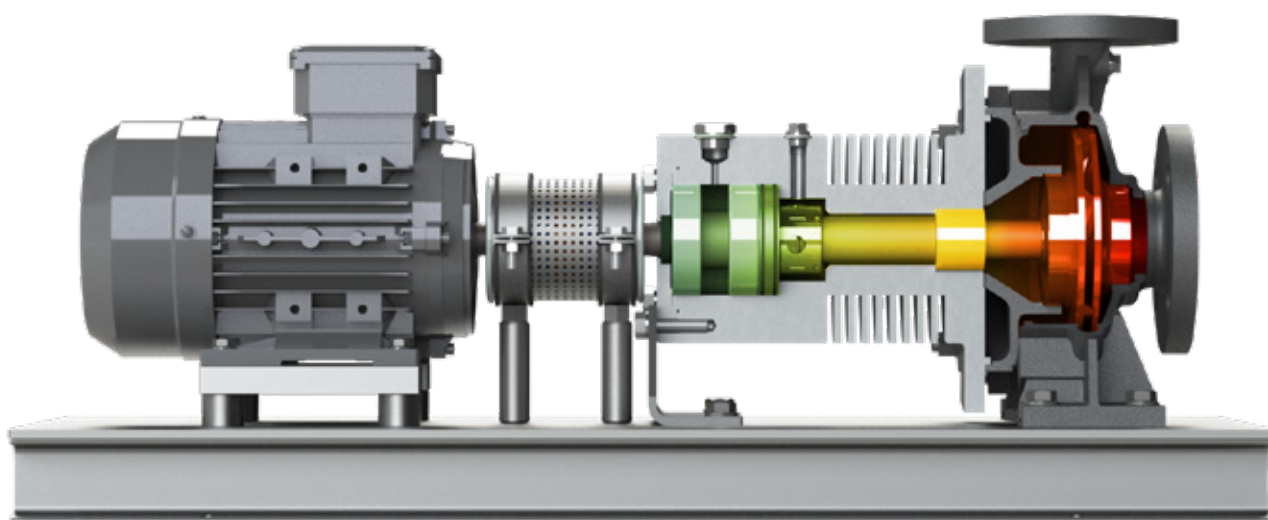


Design

Heat dissipation

The main feature of the AC-FT Series is none other than its ability to work at high temperatures, up to 350°C. The operation of the pump has been rigorously tested at Bomba Elias and verified by thermography. Therefore we can state that, thanks to the design of the pump, the temperature of the working area is considerably reduced along the axial axis, ensuring an optimal condition of gaskets, bearings and the mechanical seal.

The heatsink casing allows to reduce the temperature of the heat-transfer fluid. It conducts the heat from the internal part, in contact with the fluid, to the external part, and finally releases the heat to another medium by convection.

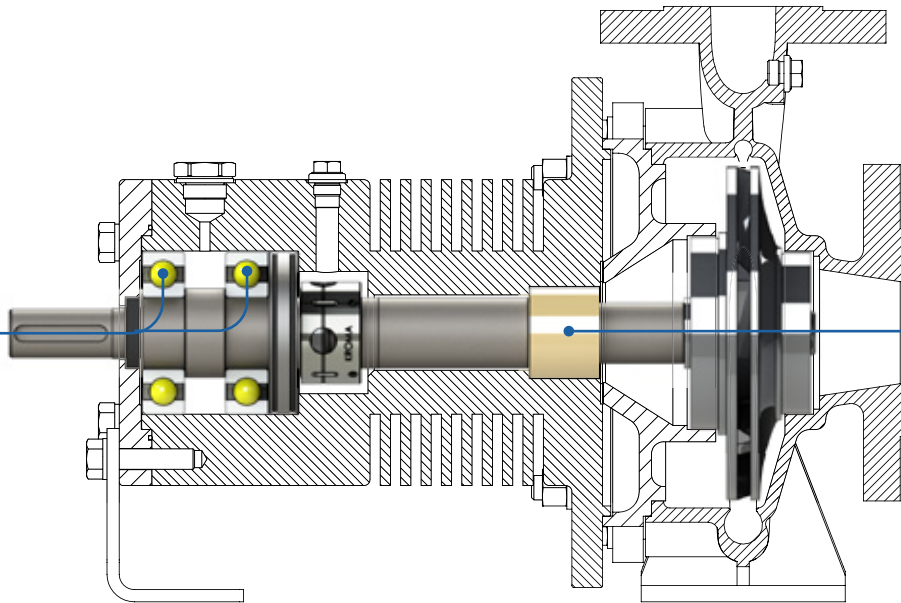




Shaft concept

The pump shaft is supported by two internal oil-lubricated rear ball bearings, which avoid contact with the transfer fluid, at high temperature, due to the special mechanical seal, placed behind the heatsink cooling fins.

Equipped with a front bearing that primarily acts as a restrictor ring but together with the rear bearings, it helps provide excellent alignment and stability to the shaft, ensuring proper pump operation and increasing the equipment lifespan.



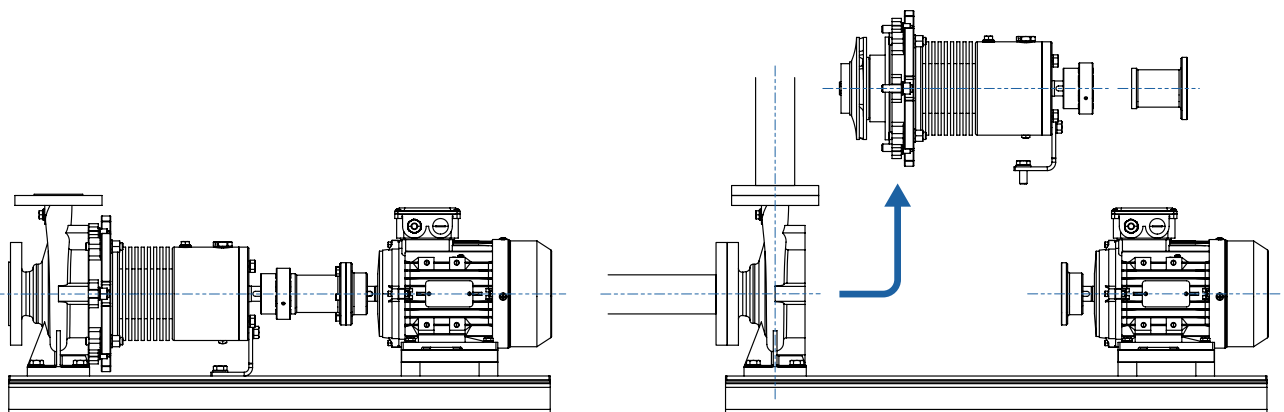
Back pull-out System

The baseplate-mounted pump units have, as standard, an elastic coupling with spacer that ensures engine assembly with optimal alignment.

This type of coupling enables the dismantling and reassembly of the pump while keeping the pump volute and the motor both anchored to the baseplate, allowing only the removal of the rotating parts assembly, including bearings, gaskets, and the mechanical seal.

Therefore, this system, called Back Pull-Out, facilitates maintenance, cleaning, repair, and replacement tasks of the equipment components.

It is also possible to assemble the unit with a simple elastic coupling, which involves detaching the motor for the removal of the rotating assembly and, consequently, requires realignment of the motor-pump when reassembling.



Sealing solution

NV-2 mechanical seal

Characteristics

- Modular design. Components are easily interchangeable and fabricated in a variety of materials for each application.
- Reversible. It can rotate in both directions indistinctly.
- Friction faces in monolithic and semi-balanced construction.
- Robustness. Fixed to the shaft by means of set screws and torque transmission through a solid machined steel ring.
- Spring. The cylindrical spring design allows to work with loaded liquids without locking problems.
- Simple assembly. The closure incorporates an indicator to adapt to the working benchmark.
- Self-cleaning. The design of the closure avoids the accumulation of product on its surface.
- Dimensions according to *EN 12756* standards.

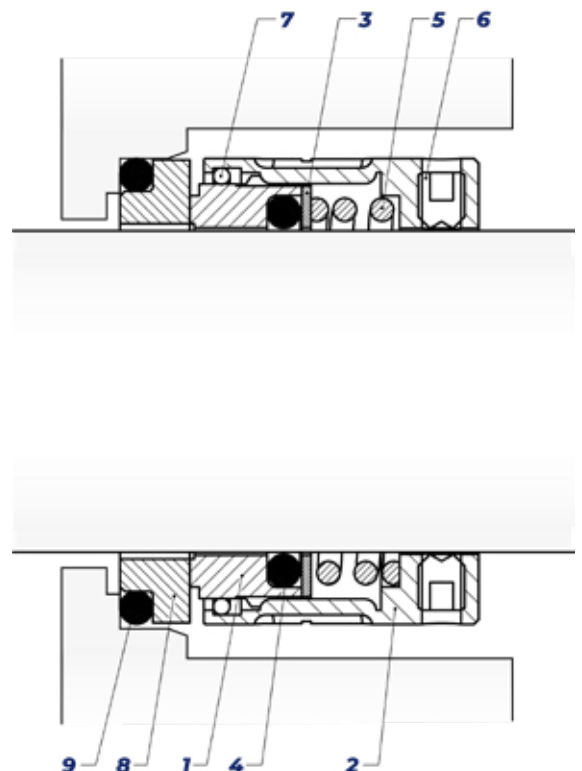


Usage limits

- P (Pressure): Up to 16 bar depending on the PV factor.
- T (Temperature): -40°C up to 200°C (depending on the secondary seal material).
- vg (Velocity): 20 m/s (10 m/s for U1U1)

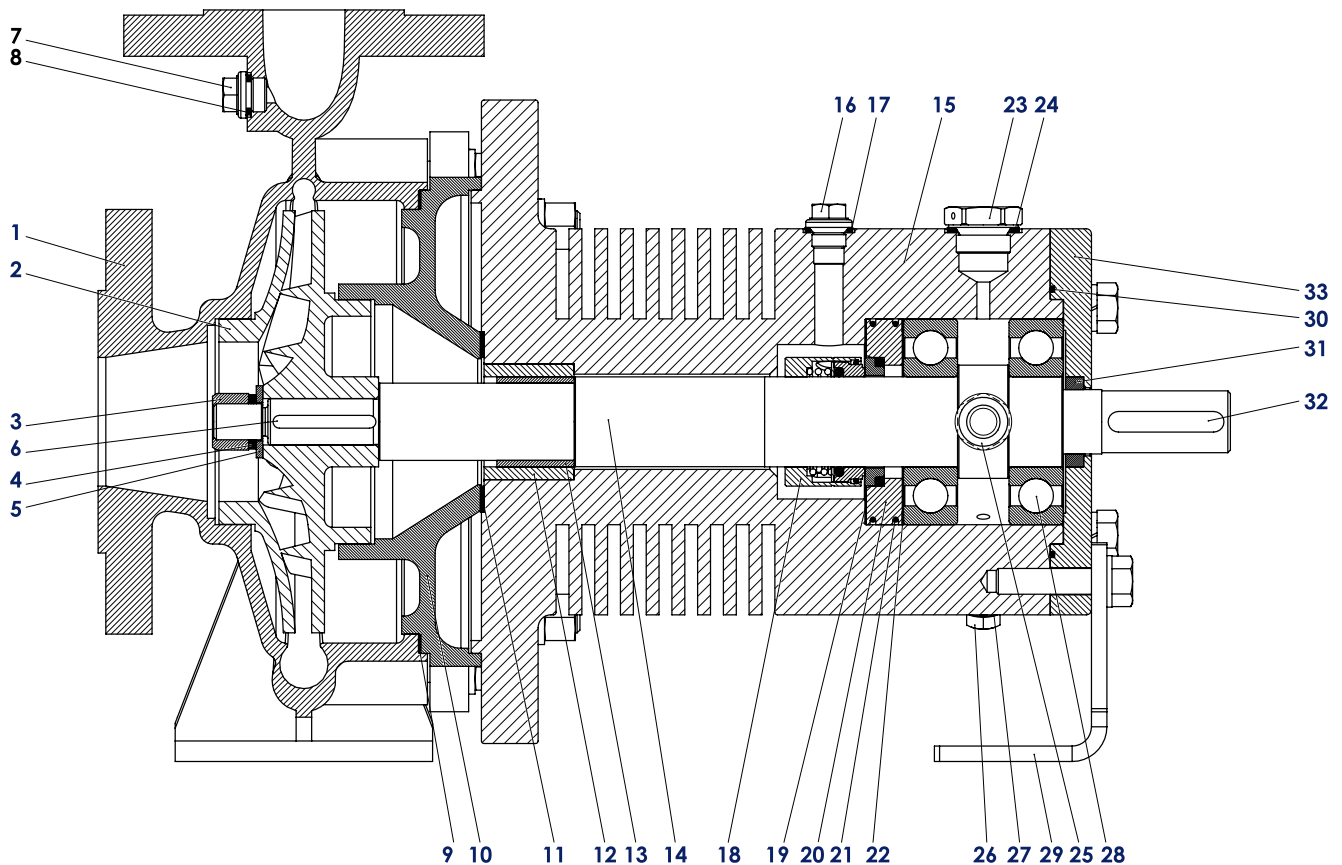
Components breakdown

REF	Designation	Material
1	Rotating ring	Carbon resin
2	Draging sleeve	CrNiMo-steel
3	Gasket	CrNiMo-steel
4	Shaft gasket	FPM (Viton)
5	Spring	CrNiMo-steel
6	Set screw kit	CrNiMo-steel
7	Safety ring	CrNiMo-steel
8	Stationary ring	Silicone carbide Q2
9	Stationary gasket	FPM (Viton)





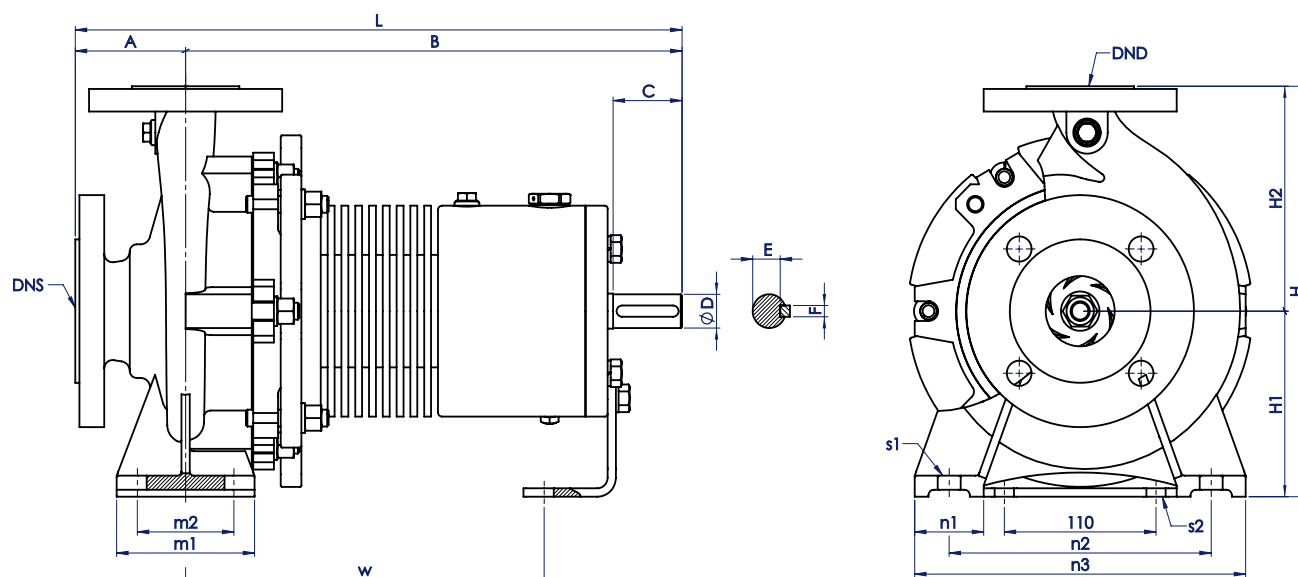
Components breakdown



REF	Designation	REF	Designation
1	Pump casing/volute	18	Mechanical seal
2	Pump Impeller	19	Seal cover gasket
3	Pump shaft front nut	20	Seal back cover
4	Impeller spring lock washer	21	Seal cover o-ring (2 pcs.)
5	Shaft-end flat washer	22	Shim washer
6	Front shaft key	23	Bearing housing breather fill plug
7	Pump casing fill/drain plug (2 pcs.)	24	Bearing housing breather fill plug gasket
8	Pump casing fill/drain plug gasket (2 pcs.)	25	Bearing housing oil sight glass
9	Pump casing-cover gasket	26	Bearing housing drain plug
10	Pump cover	27	Bearing housing drain plug gasket
11	Pump cover-heat sink casing gasket	28	Deep groove ball bearing (2 pcs.)
12	Front stationary outer bushing	29	Rear support leg
13	Front rotating inner bushing	30	Bearing bracket rear cover o-ring
14	Pump Shaft	31	Bearing bracket rear lip seal
15	Finned heat sink casing	32	Rear shaft key
16	Mechanical seal fill plug	33	Bearing bracket rear cover
17	Mechanical seal fill plug gasket		

Dimensions table

Bare Shaft pump dimensions

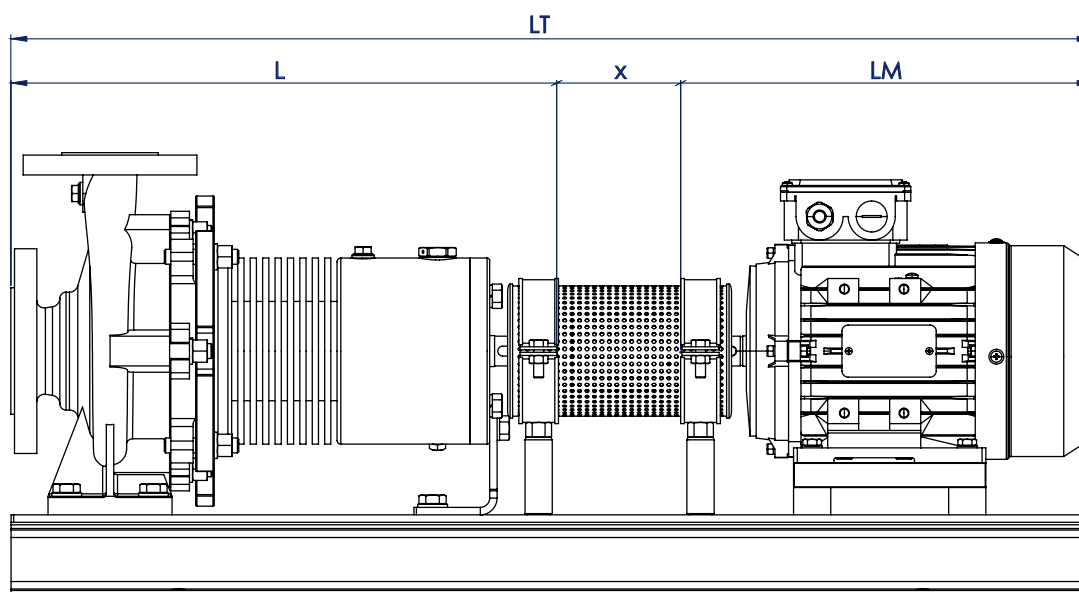


Model	Pump dimensions									Support/feet dimensions							Shaft end			
	DND	DNS	L	A	B	H	H1	H2	m1	m2	n1	n2	n3	s1	s2	w	C	D	E	F
32-160	32	50	440	80	360	292	132	160	100	70	50	190	240	14	14	260	50	24	27	8
32-200						340	160	180												
40-160	40	65	440	80	360	292	132	160	100	70	50	190	240	14	14	260	50	24	27	8
40-200						340	160	180												
40-260						405	180	225												
50-160	50	65	460	100	360	340	160	180	100	70	50	212	265	14	14	260	50	24	27	8
50-200						360	160	200												
50-260						405	180	225												
65-160	65	80	460	100	360	360	160	200	125	95	65	212	280	14	14	260	50	24	27	8
65-200						405	180	225												
65-260						470	200	250												
80-160	80	100	485	125	360	405	180	225	125	95	65	250	320	14	14	260	50	24	27	8
80-200						430	180	250												
80-260						470	200	280												
100-200	100	125	595	125	470	480	200	280	160	120	80	280	360	18	14	340	80	32	35	10
100-260						505	225	280												
125-260	125	150	610	140	470	605	250	355	160	120	80	315	400	18	14	340	80	32	35	10



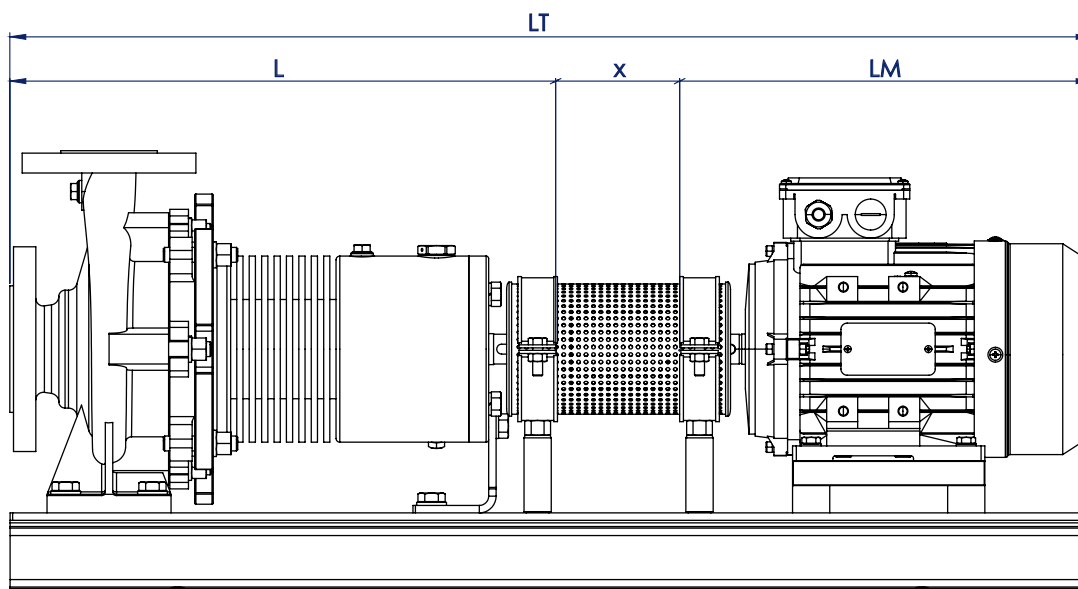
Baseplate-mounted pump dimensions

WITH SPACER COUPLING - FOR 1450 AND 2900 RPM



The dimensions are applicable to IE3 aluminium and cast iron motors, according to IEC standards. For motors with different efficiencies or ATEX motors, the dimensions, coupling type, and baseplate may vary, depending on the model.

Model	Motor Type	Pump dimensions				Baseplate
		L	x	LM	LT	
32-160	71	440	100	260	800	I
	80			295	835	I
	90S			335	875	I/II
	90L			365	905	II
	100L, 112M			400	940	II
	132S			430	970	II
32-200	80	440	100	295	835	I
	90S			335	875	I/II
	90L			365	905	II
	100L, 112M			400	940	II
	132S			430	970	II
	132M			480	1020	III
40-160	71	440	100	260	800	I
	80			295	835	I
	90S			335	875	I/II
	90L			365	905	II
	100L, 112M			400	940	II
	132S			430	970	II
40-200	80	460	100	295	855	I
	90S			335	895	II
	90L			365	925	II
	100L, 112M			400	960	II
	132S			430	990	II/III
	132M			480	1040	III
50-160	80	460	100	295	855	I
	90S			335	895	II
	90L			365	925	II
	100L, 112M			400	960	II
	132S			430	990	II/III
	132M			480	1040	III
50-200	80	460	100	295	855	I
	90S			335	895	II
	90L			365	925	II
	100L, 112M			400	960	II
	132S			430	990	II/III
	132M			480	1040	III
50-260	160M, 160L	460	100	640	1200	IV
	90L			365	925	II
	100L, 112M			400	960	II
	160M, 160L			640	1200	IV
	180M			790	1350	V/VI
	200L			830	1390	VI

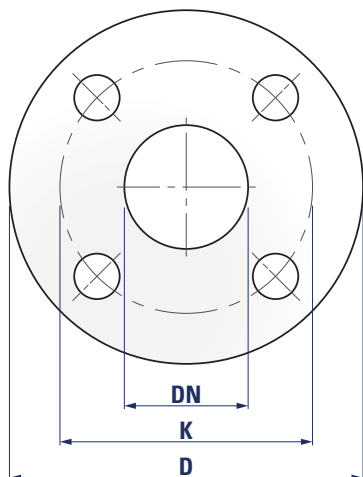


Model	Motor Type	Pump dimensions				Baseplate
		L	x	LM	LT	
65-160	80	460	100	295	855	I
	90L			365	925	II
	100L			400	960	II
	132S			430	990	II/III
	132M			480	1040	III
	160M			640	1200	IV
65-200	90S	460	100	335	895	II
	90L			365	925	II
	100L, 112M			400	960	II
	132M			480	1040	III
	160M, 160L			640	1200	IV
	180M			790	1350	V/VI
65-260	200L	570	100	830	1390	VI
	100L, 112M			400	1070	III
	132S			430	1100	III/IV
	160L			640	1310	V/VI
	180M			790	1460	VI/VII
	200L			830	1500	VII
80-160	225M	485	100	825	1495	VII
	80			295	880	I/II
	90S			335	920	II
	90L			365	950	II
	100L, 112M			400	985	II/III
	132S			430	1015	III
80-200	132M	595	100	480	1065	III
	160M, 160L			640	1225	IV/V
	180M			790	1375	VI
	90L			365	925	II
	100L, 112M			400	960	II
	132S			430	990	II/III
80-260	132M	595	100	480	1040	III
	160M, 160L			640	1200	IV
	180M			790	1350	V/VI
	200L			830	1390	VI
	225M			825	1520	VII
	250M			915	1610	VIII
100-200	112M	595	100	400	1095	III
	132S			430	1125	IV
	132M			480	1175	IV
	160L			640	1335	V/VI
	180M			790	1485	VII
	200L			830	1525	VII
100-260	225M	610	100	825	1520	VII
	250M			915	1625	VIII
	280M			1035	1745	IX
	112M			400	1110	III/IV
	132S			430	1140	IV
	132M			480	1190	IV

For the 125-260 model, confer with the technical office.

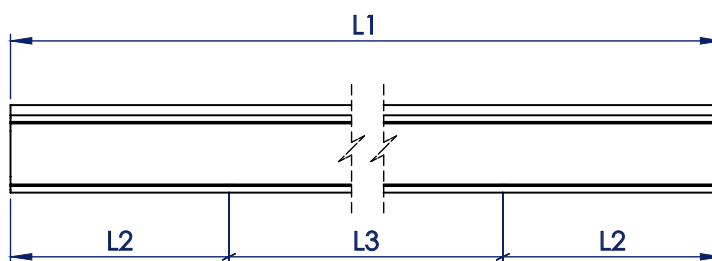
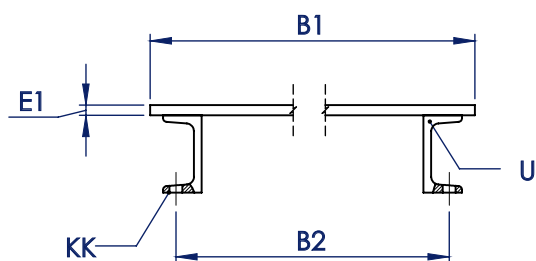


Flange dimensions



DN	DIN 2501 PN16 Flange dimensions			
	D	K	Holes	
			N°	Ø
32	140	100	4	18
40	150	110		
50	165	125		
65	185	145		
80	200	160	8	
100	220	180		
125	250	210		

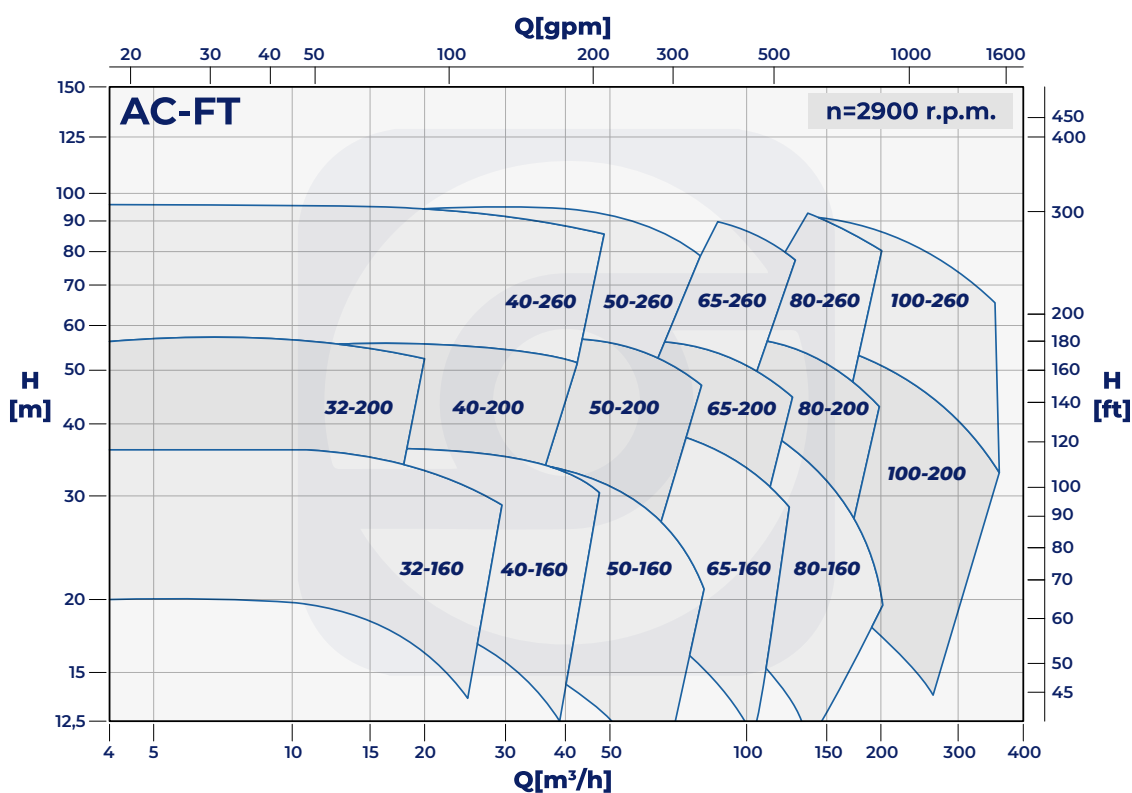
Baseplate dimensions



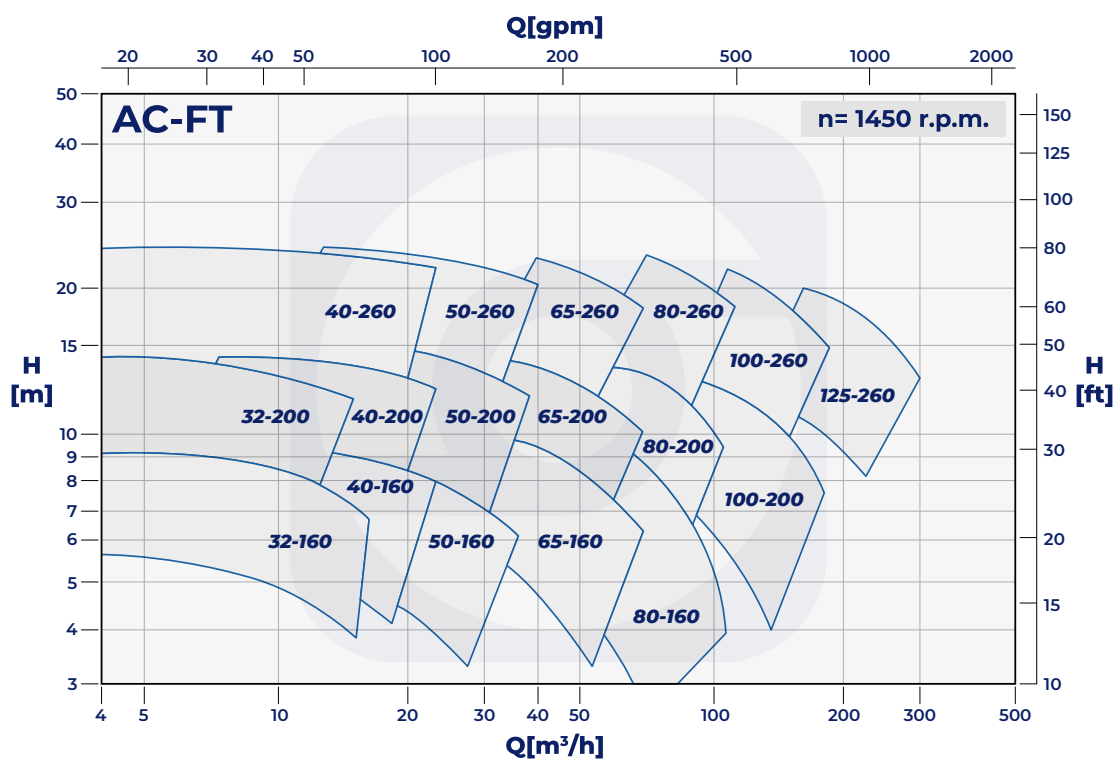
N°	U	B1	B2	L1	L2	L3	E1	KK
0	60x30	260	220	765	125	515	6	10
I	60x30	370	330	870	135	600	6	10
II	60x30	390	350	980	140	700	6	10
III	60x30	425	385	1100	170	760	8	10
IV	60x30	475	435	1200	200	800	8	10
V	60x30	500	460	1310	230	850	8	10
VI	100x50	525	475	1420	260	900	10	12
VII	100x50	575	525	1540	290	960	10	12
VIII	100x50	625	575	1680	320	1040	10	12
IX	100x50	675	625	1820	350	1120	10	12
X	100x50	775	725	1980	380	1220	10	12

Pump selection graphics

$n = 2900$ r.p.m.



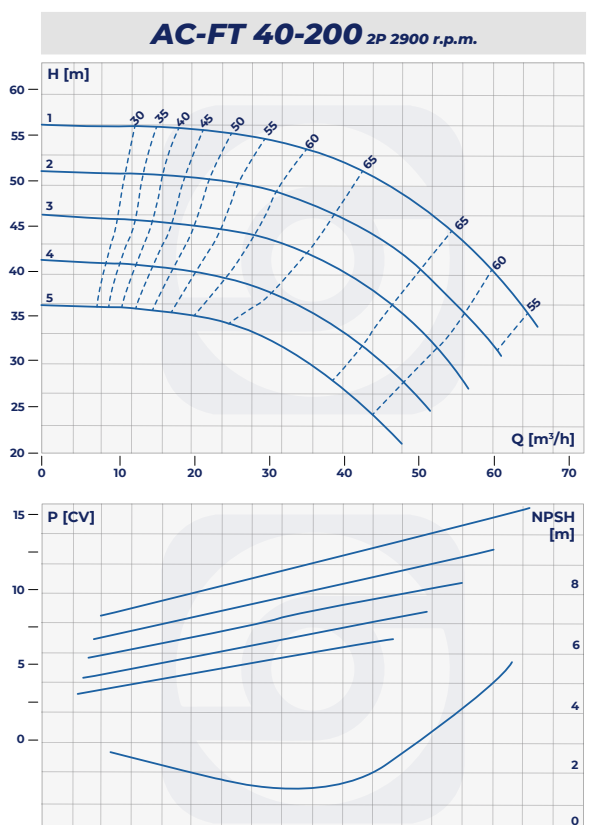
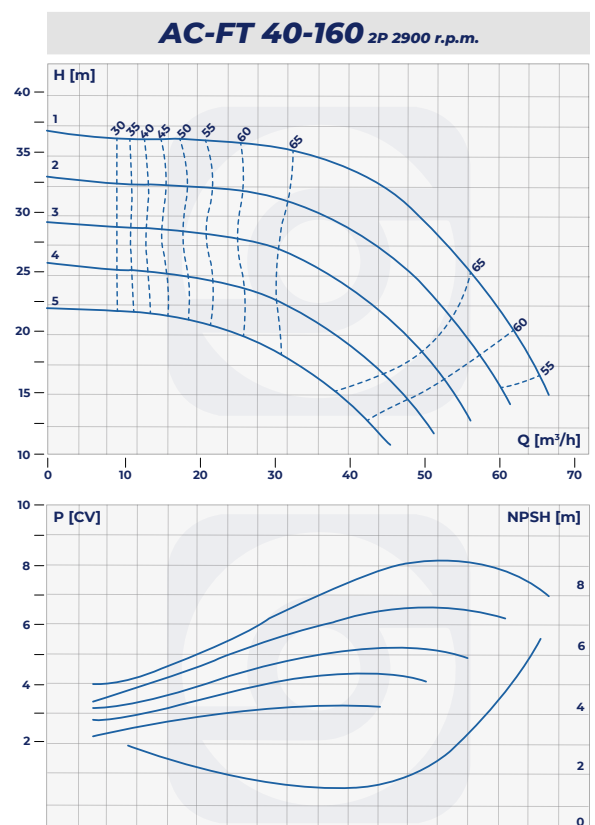
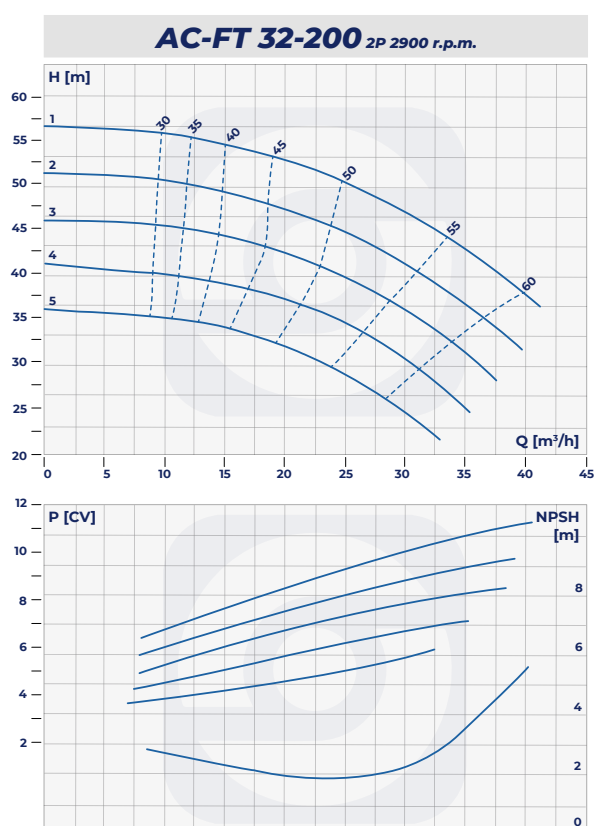
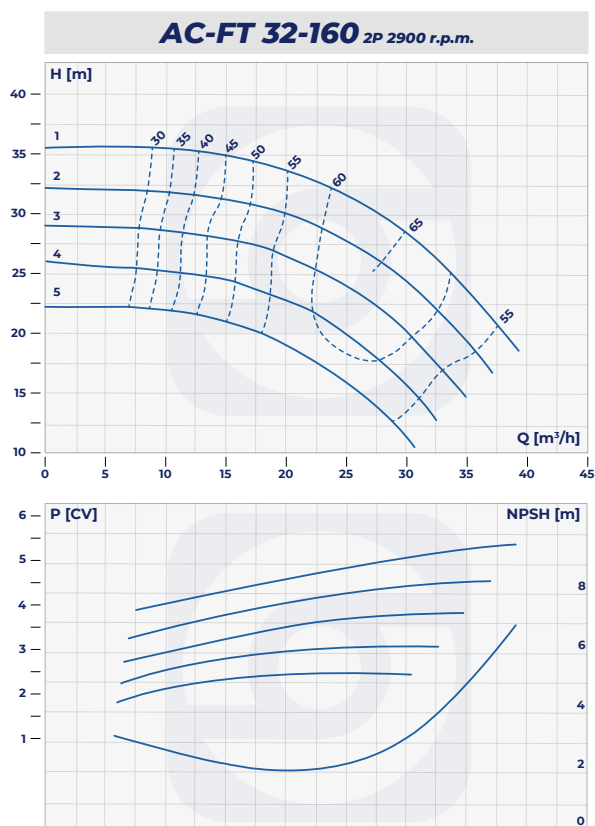
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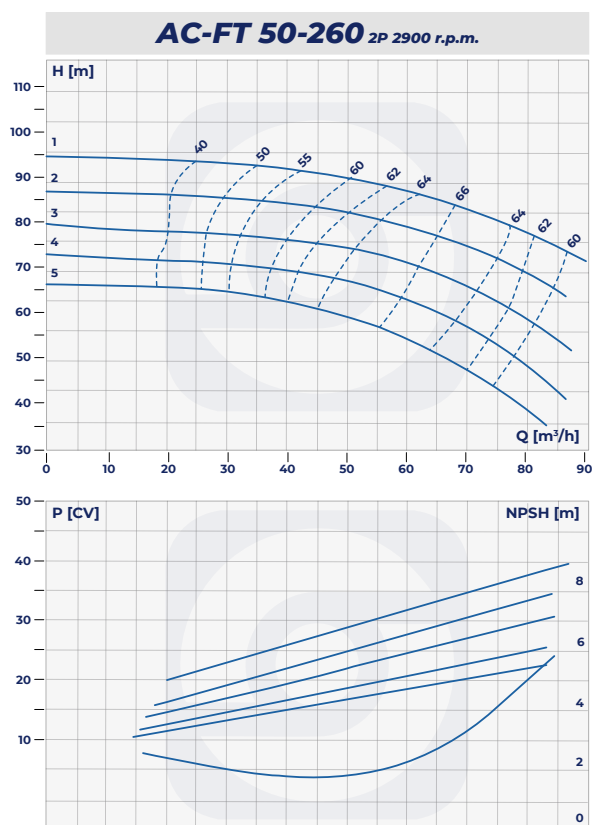
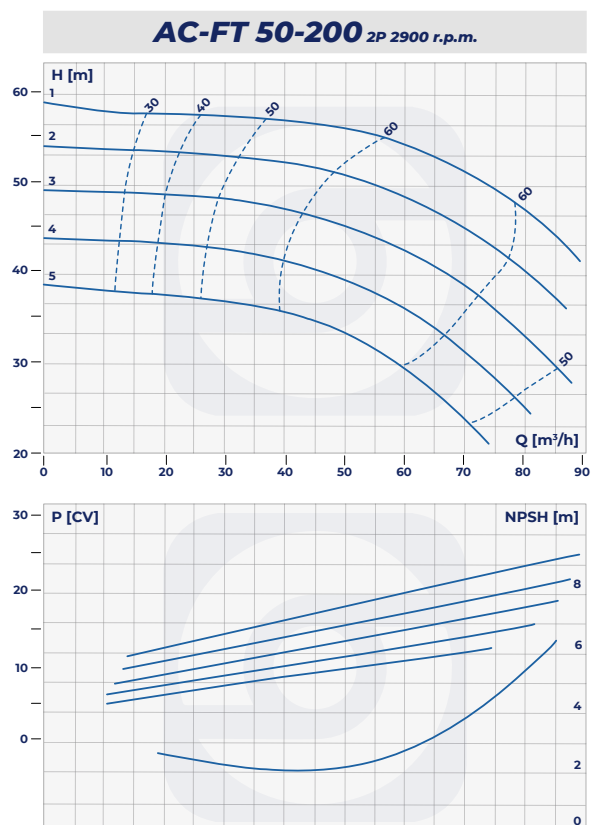
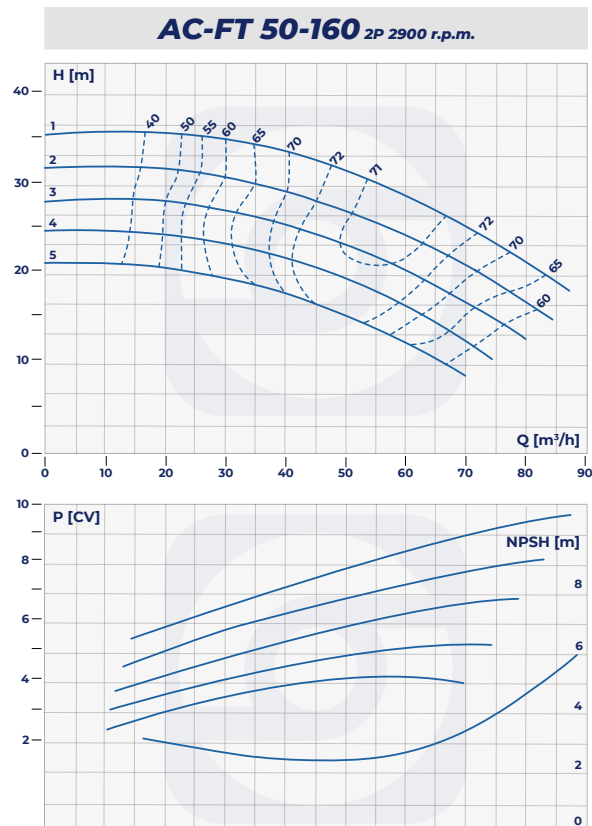
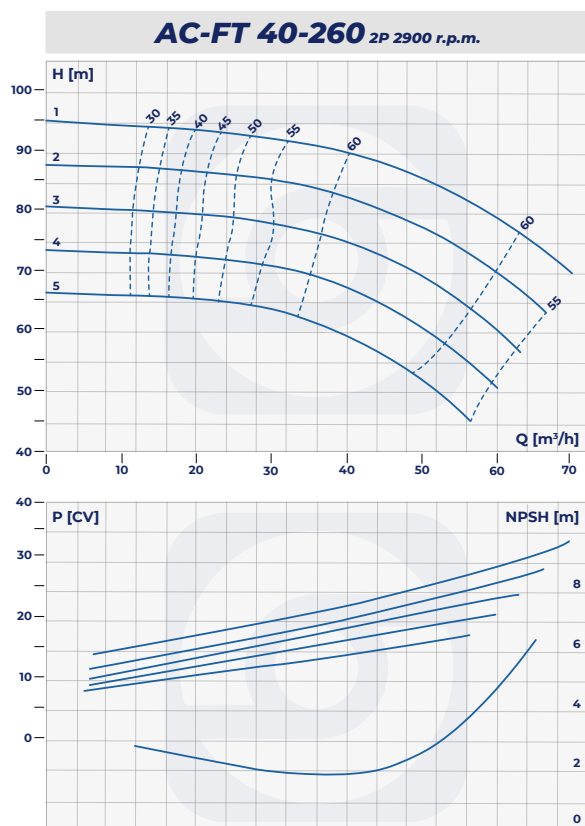




Performance curves

$n = 2900$ r.p.m.

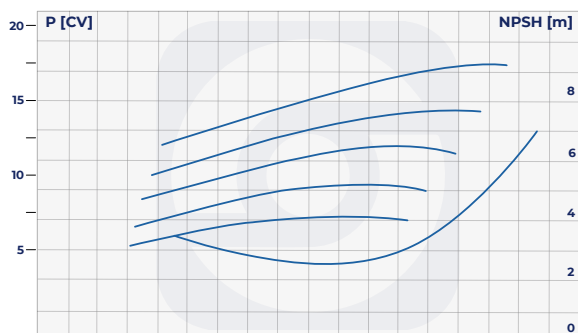
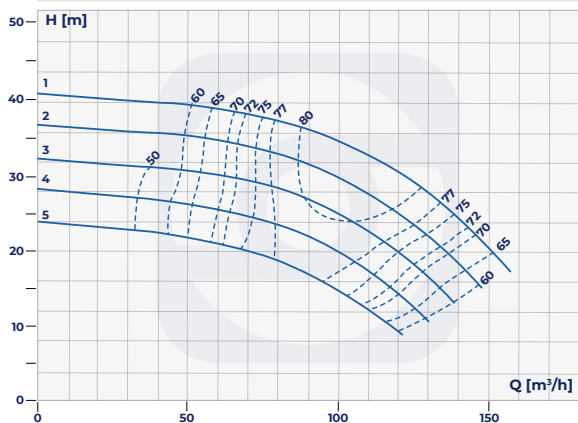




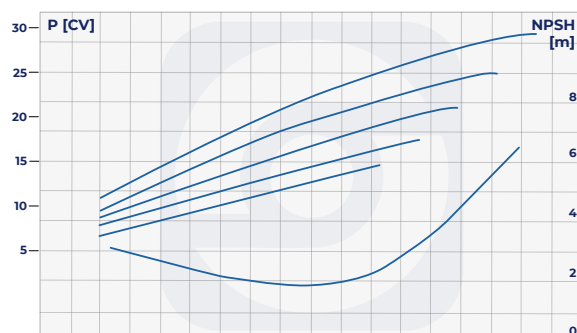
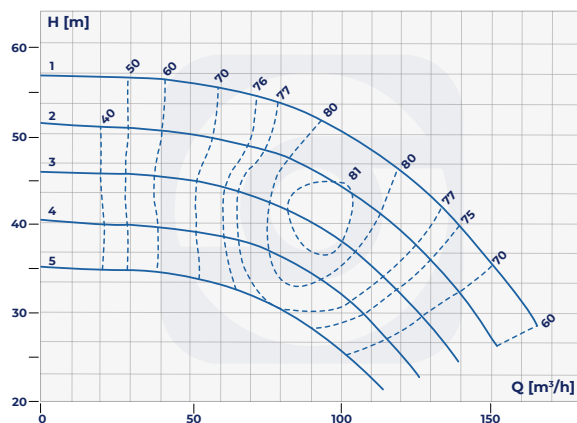


$n = 2900 \text{ r.p.m.}$

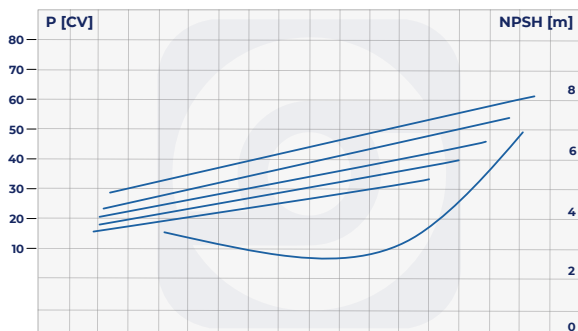
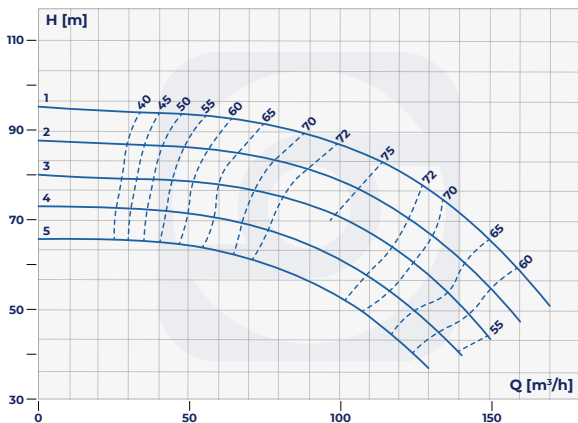
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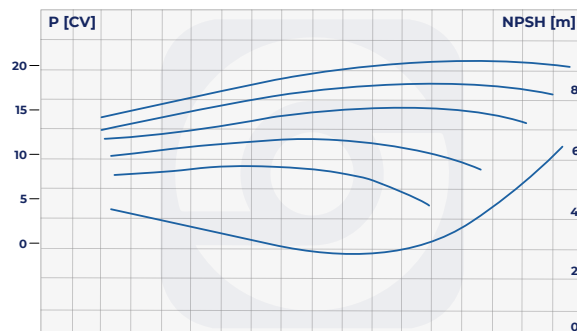
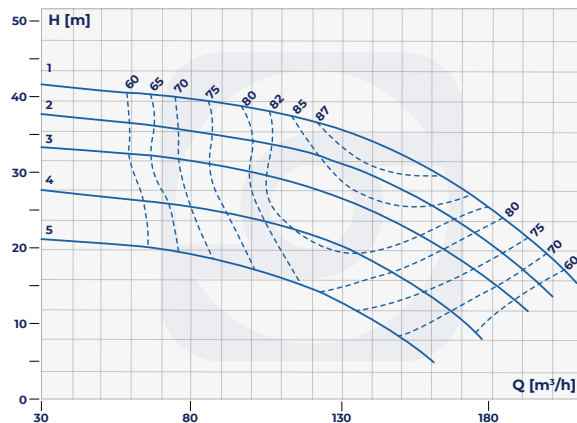
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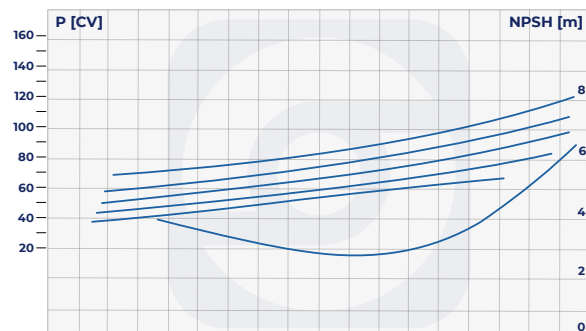
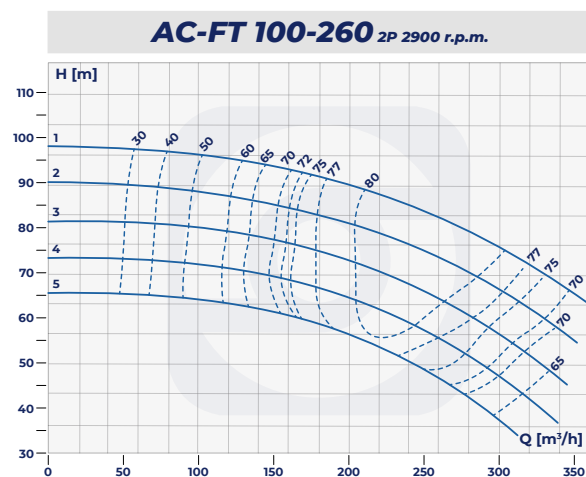
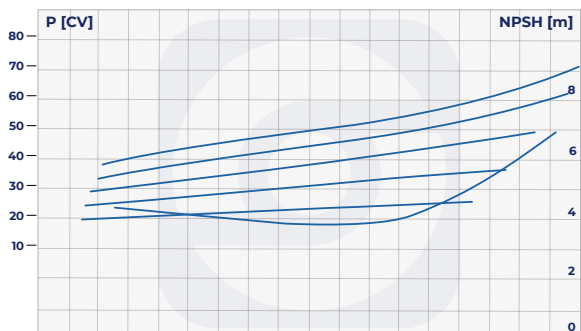
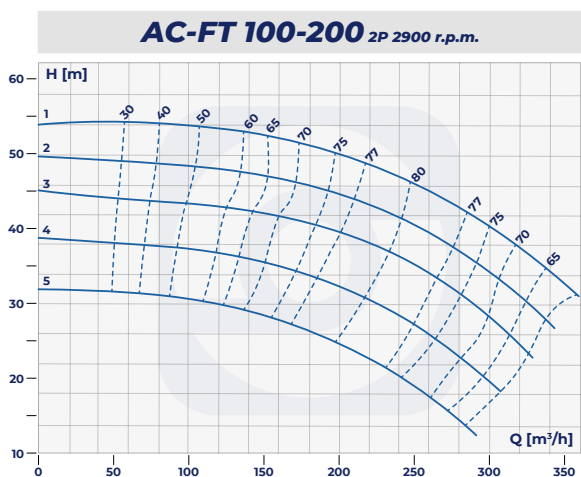
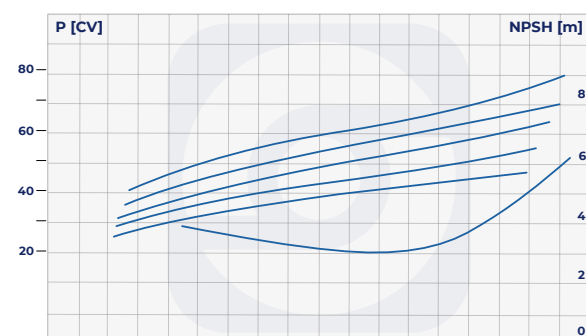
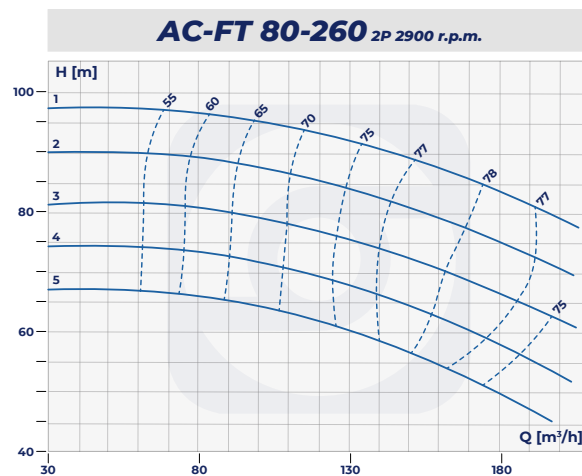
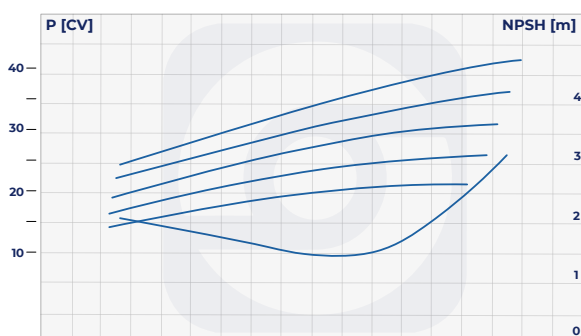
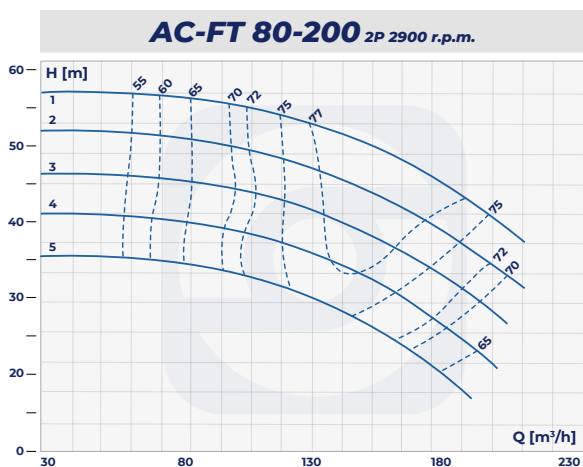


AC-FT 65-260 2P 2900 r.p.m.



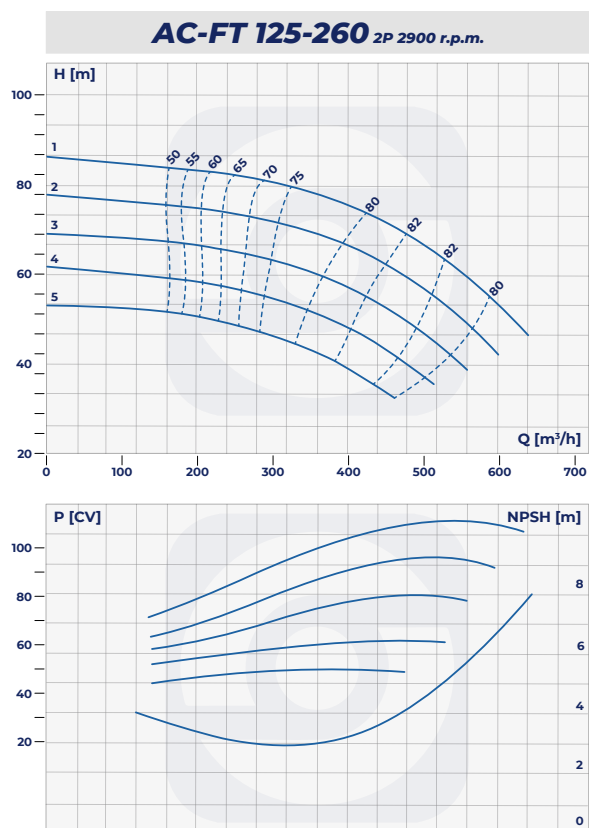
AC-FT 80-160 2P 2900 r.p.m.



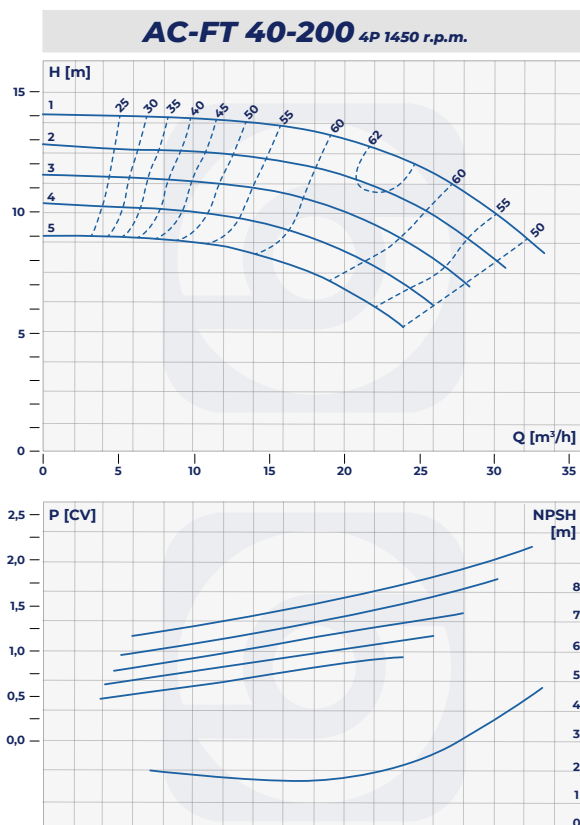
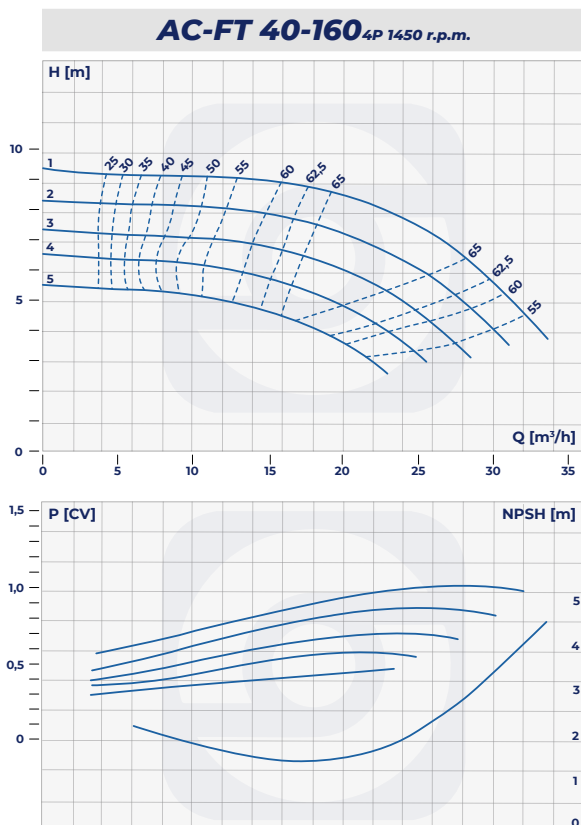
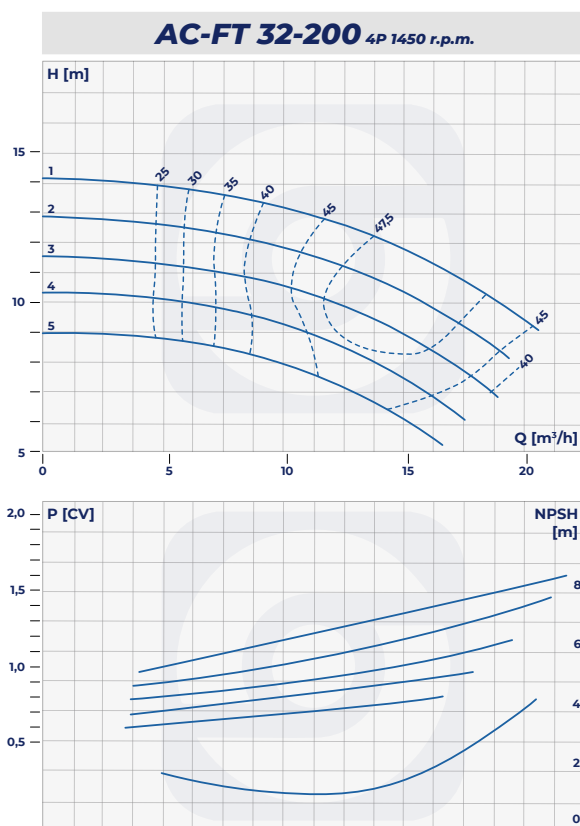
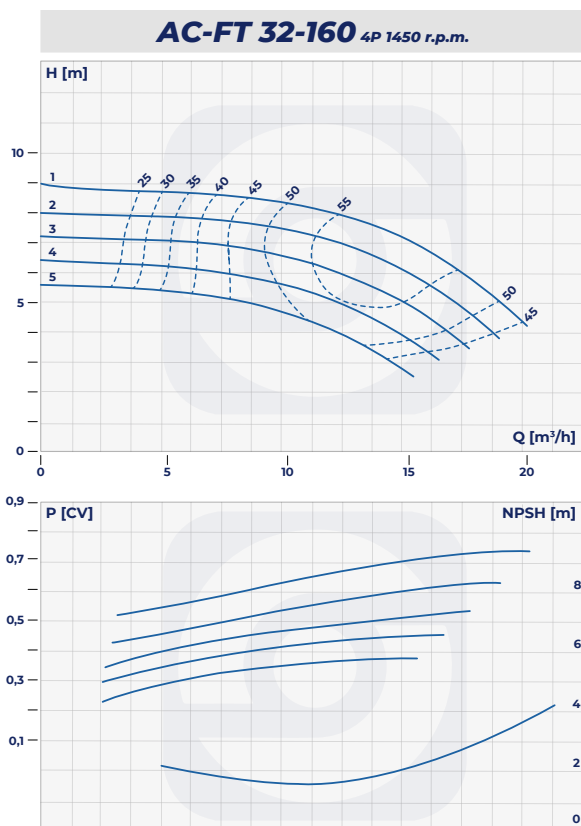




$n = 2900$ r.p.m.

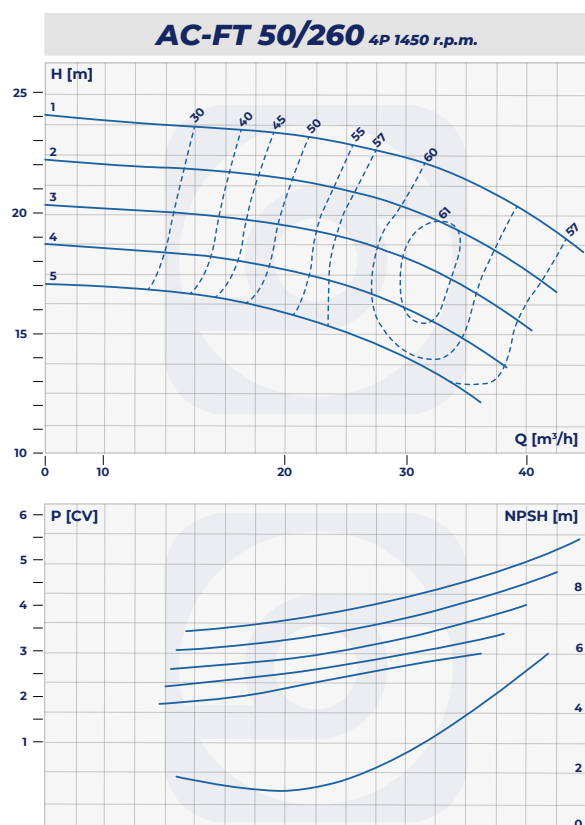
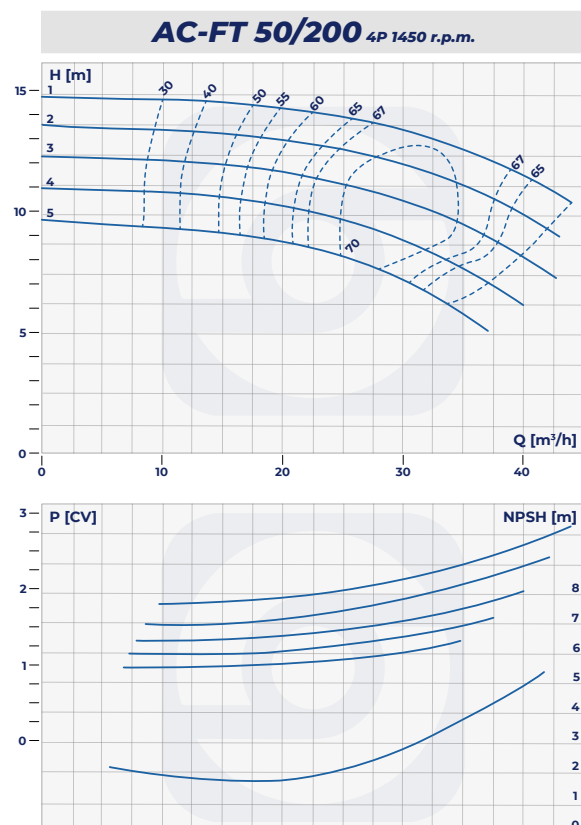
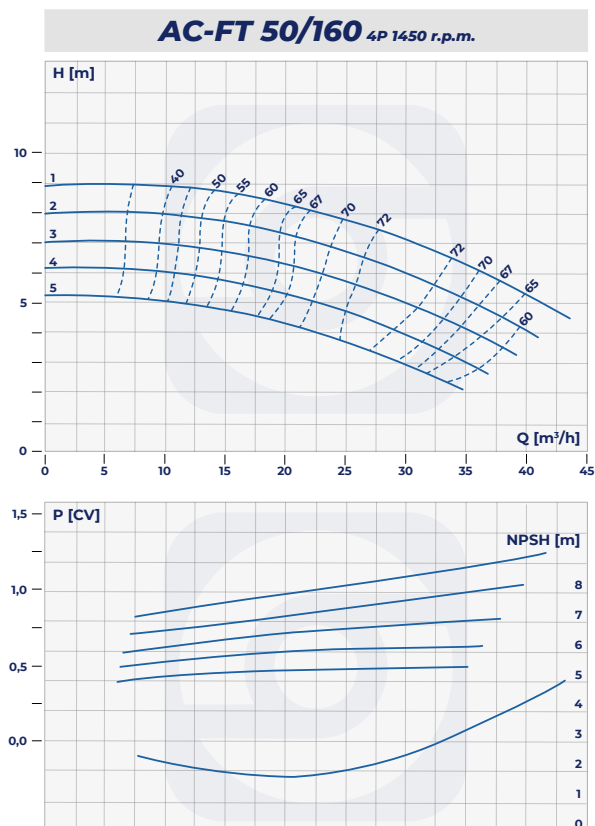
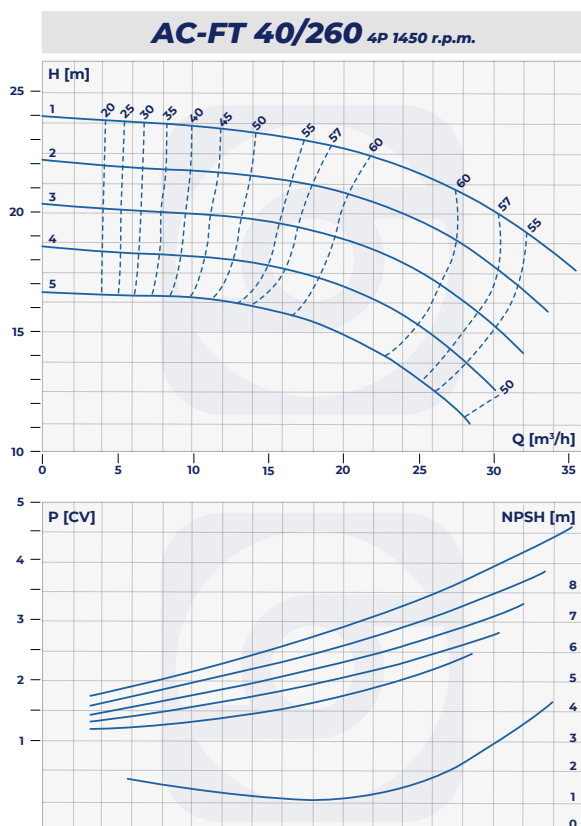


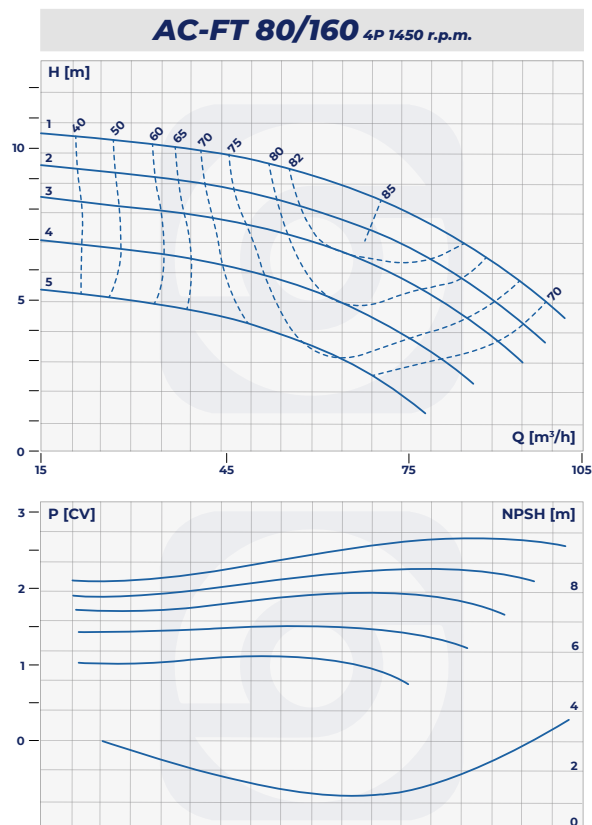
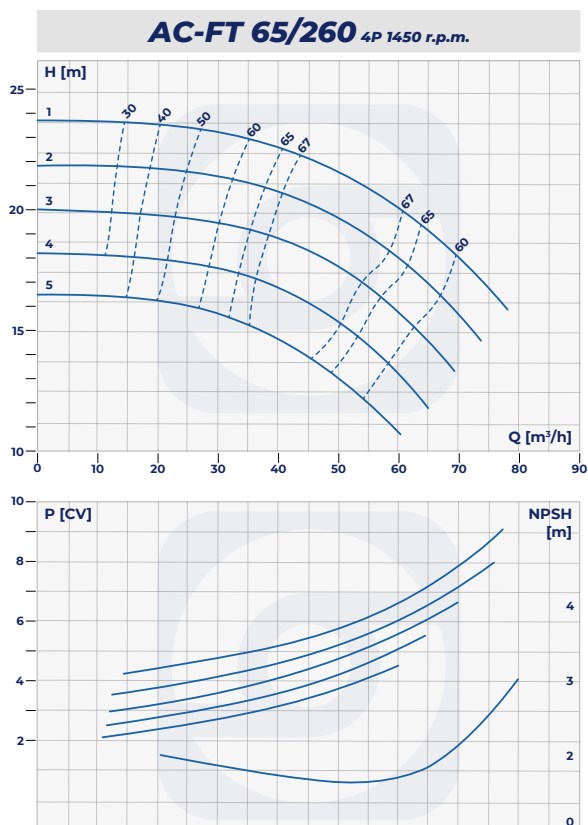
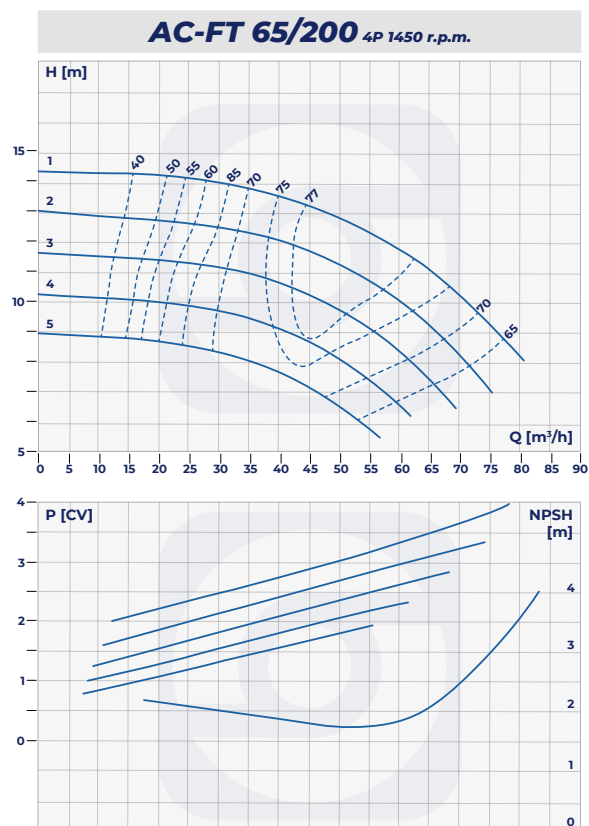
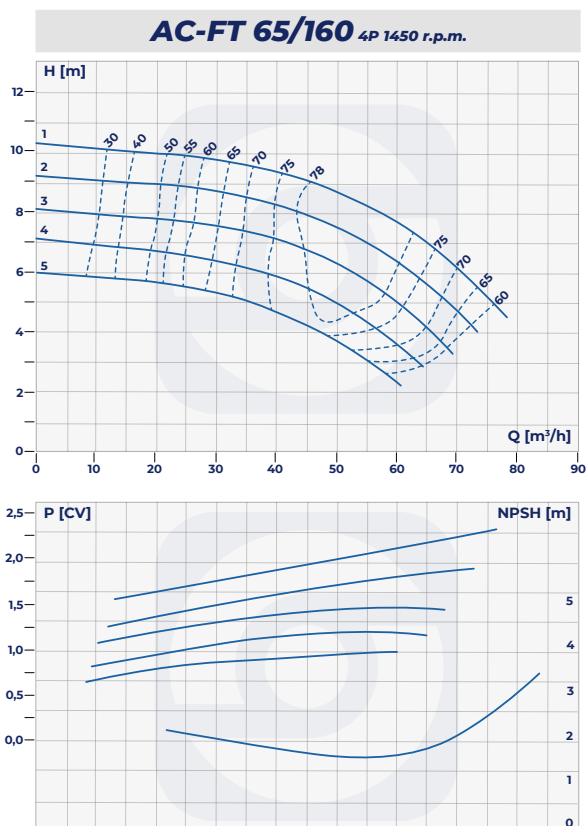
$n = 1450 \text{ r.p.m.}$





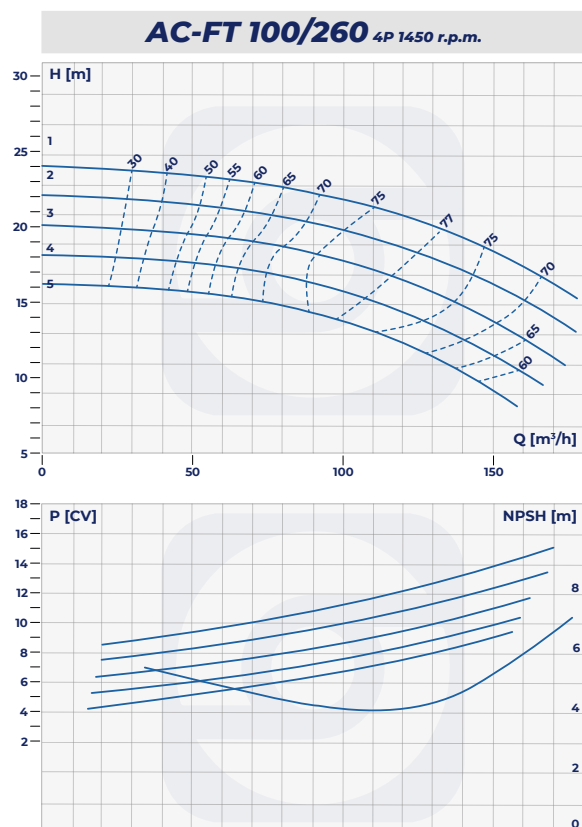
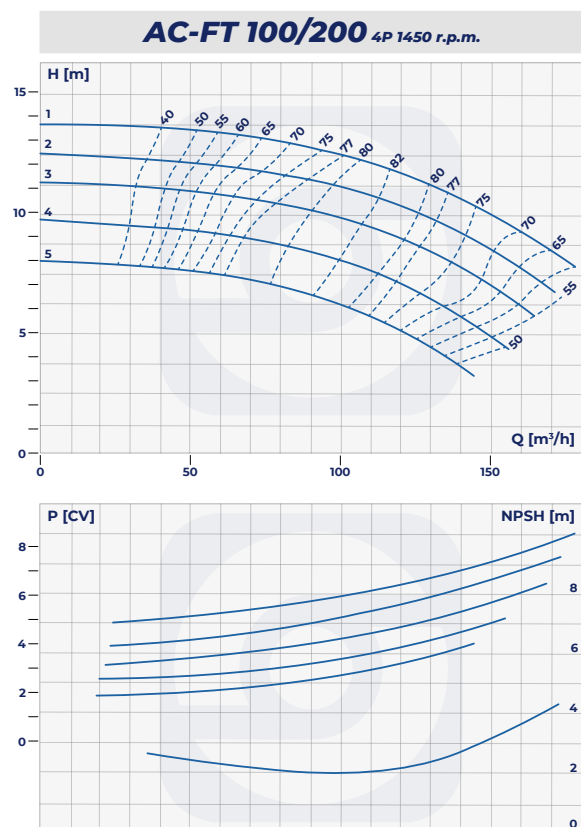
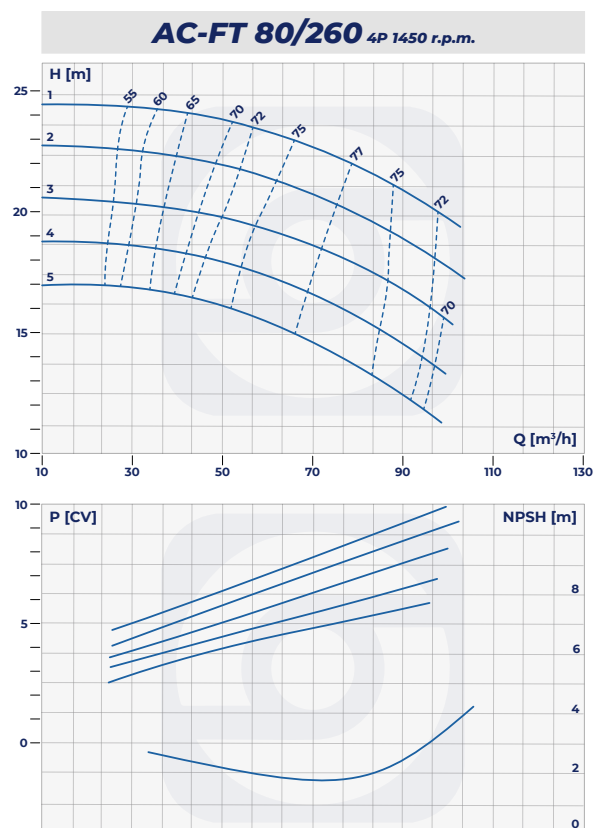
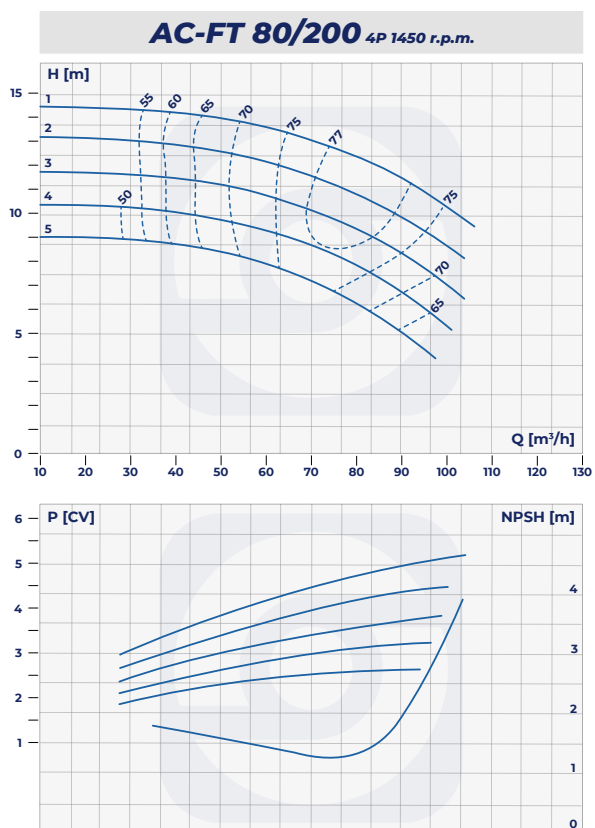
$n = 1450 \text{ r.p.m.}$

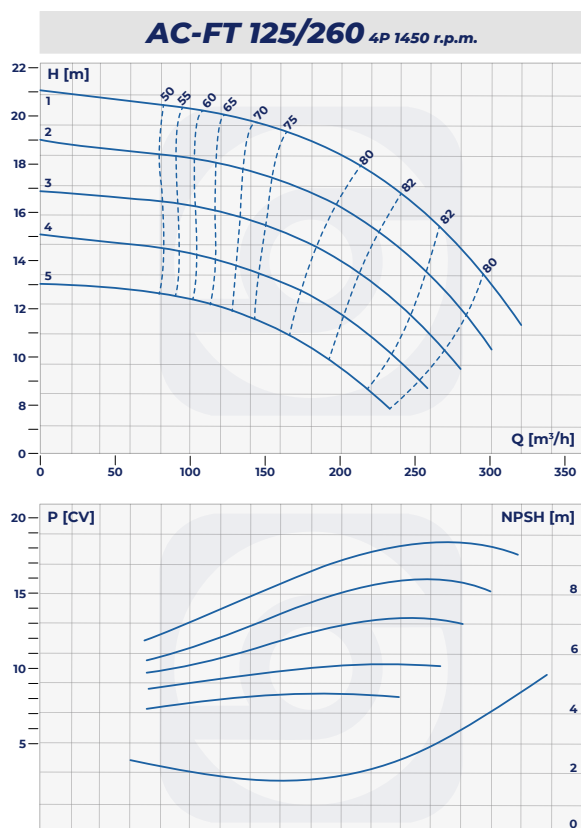






$n = 1450 \text{ r.p.m.}$





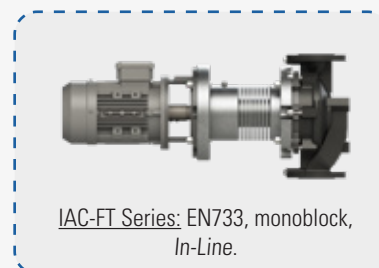
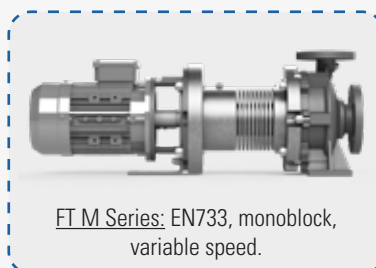
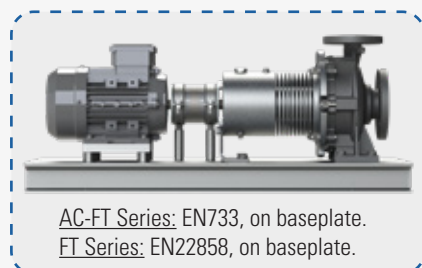


Notes

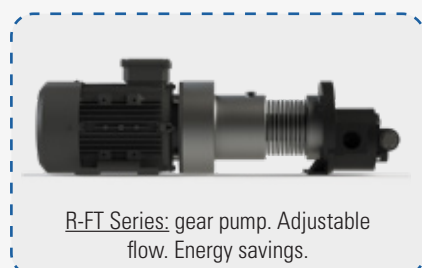
Handwriting practice lines consisting of 20 horizontal dashed lines.

!We have all the solutions available for your HEAT TRANSFER fluid installation at your disposal!

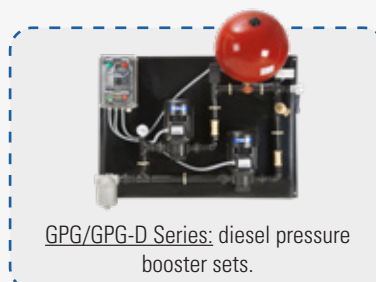
Main installation



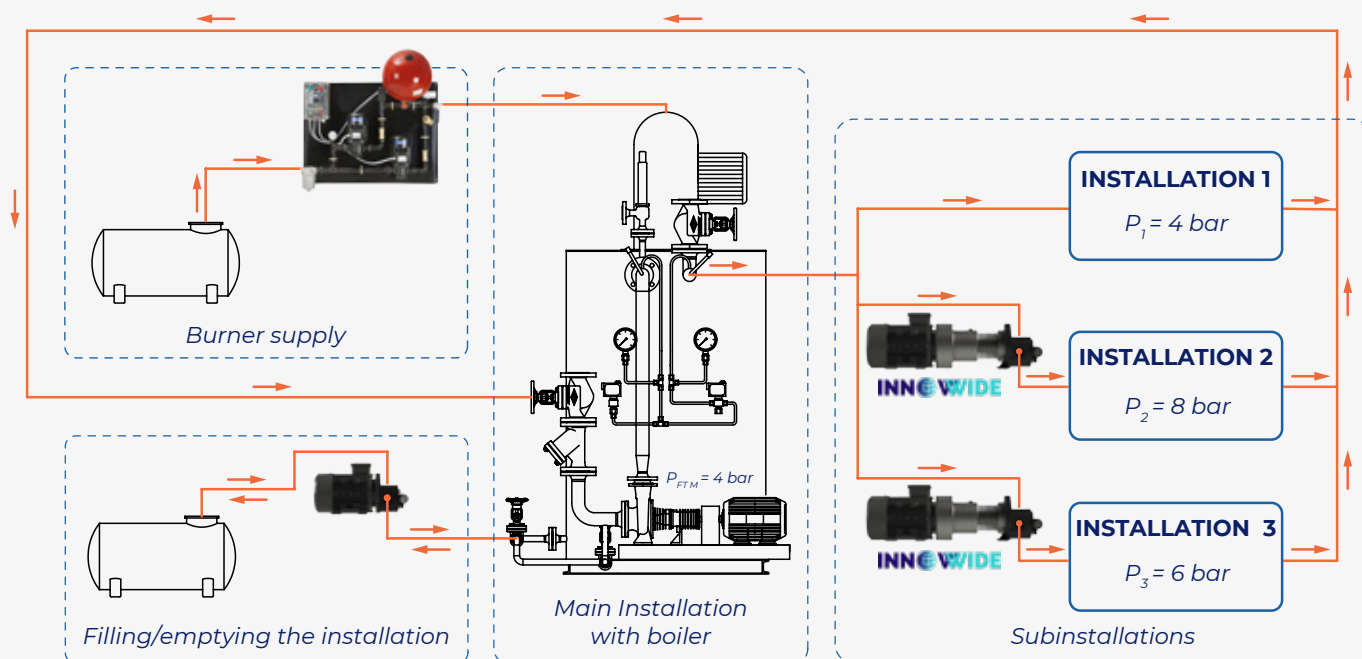
Subinstallations



Burner supply



Filling/drainage of the installation





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