

IAC-FT Series

In-Line centrifugal pump - Thermal fluid



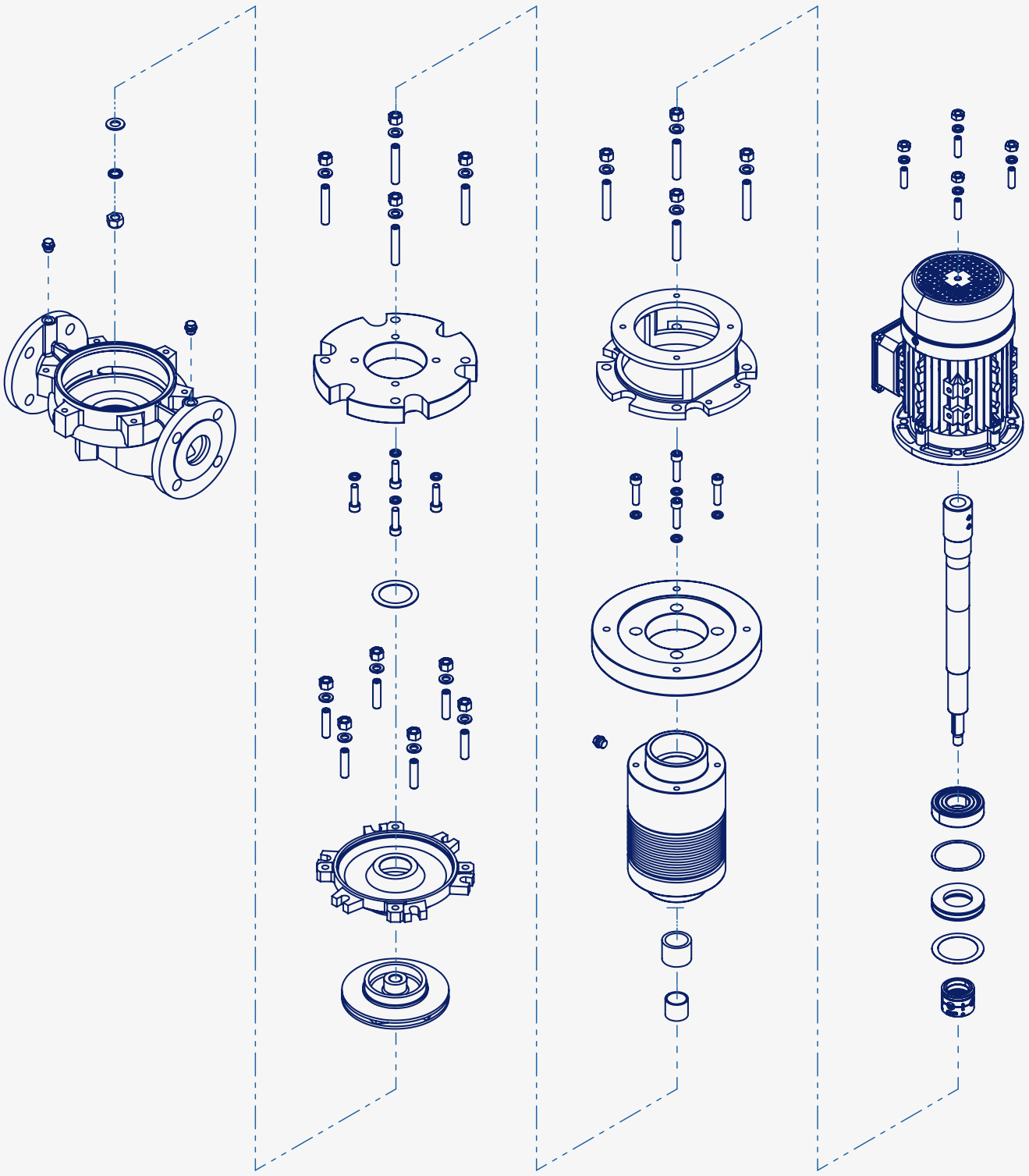


TABLE OF CONTENTS

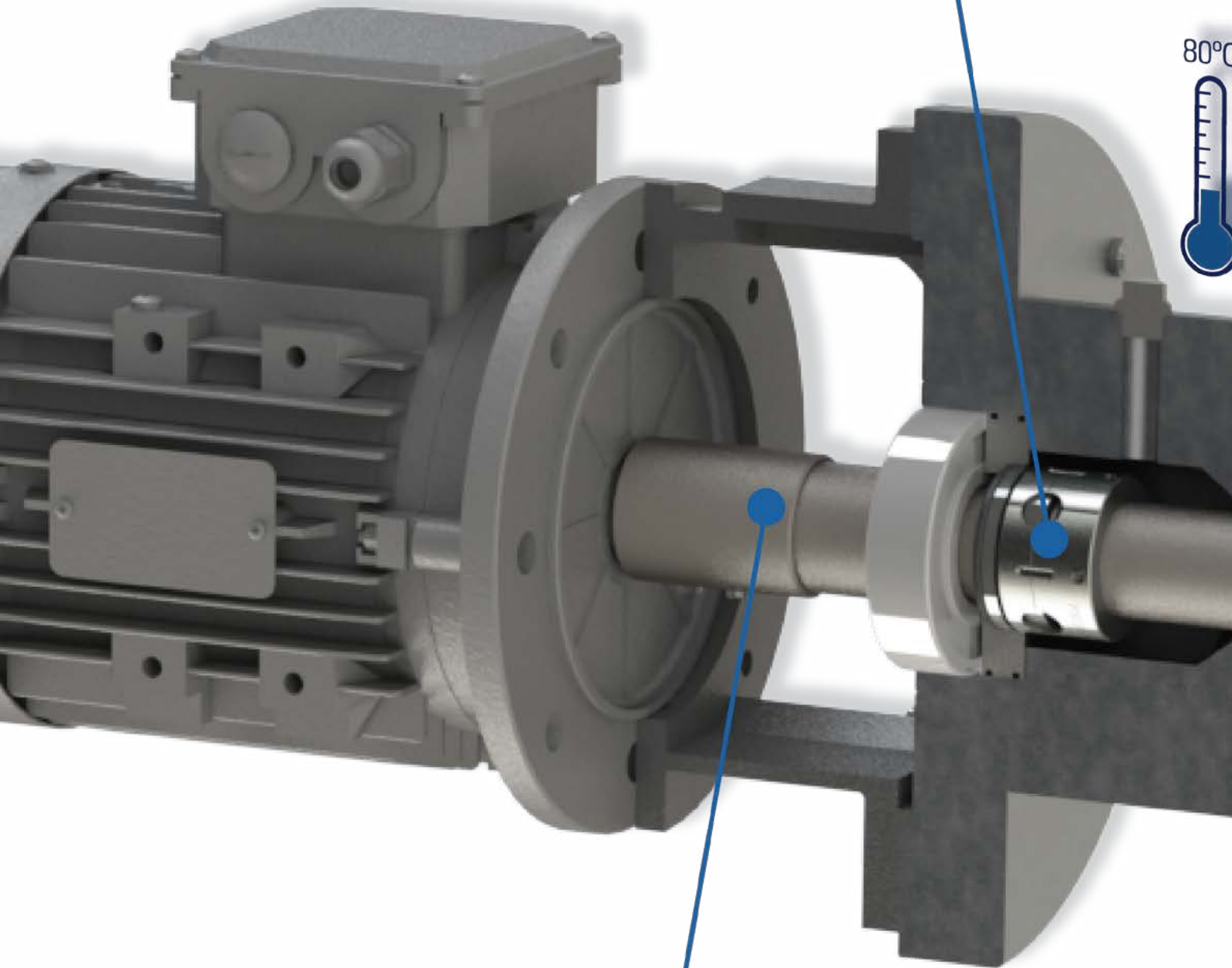
6	IAC-FT Series
6	Specifications
7	Design
9	Exploded view of components
10	Dimensions table
12	Sealing solution
13	Pump selection curves
14	Performance curves



Reversible mechanical sealing
away from the racking area
and properly lubricated

GGG-4
accord
Maxim

80°C

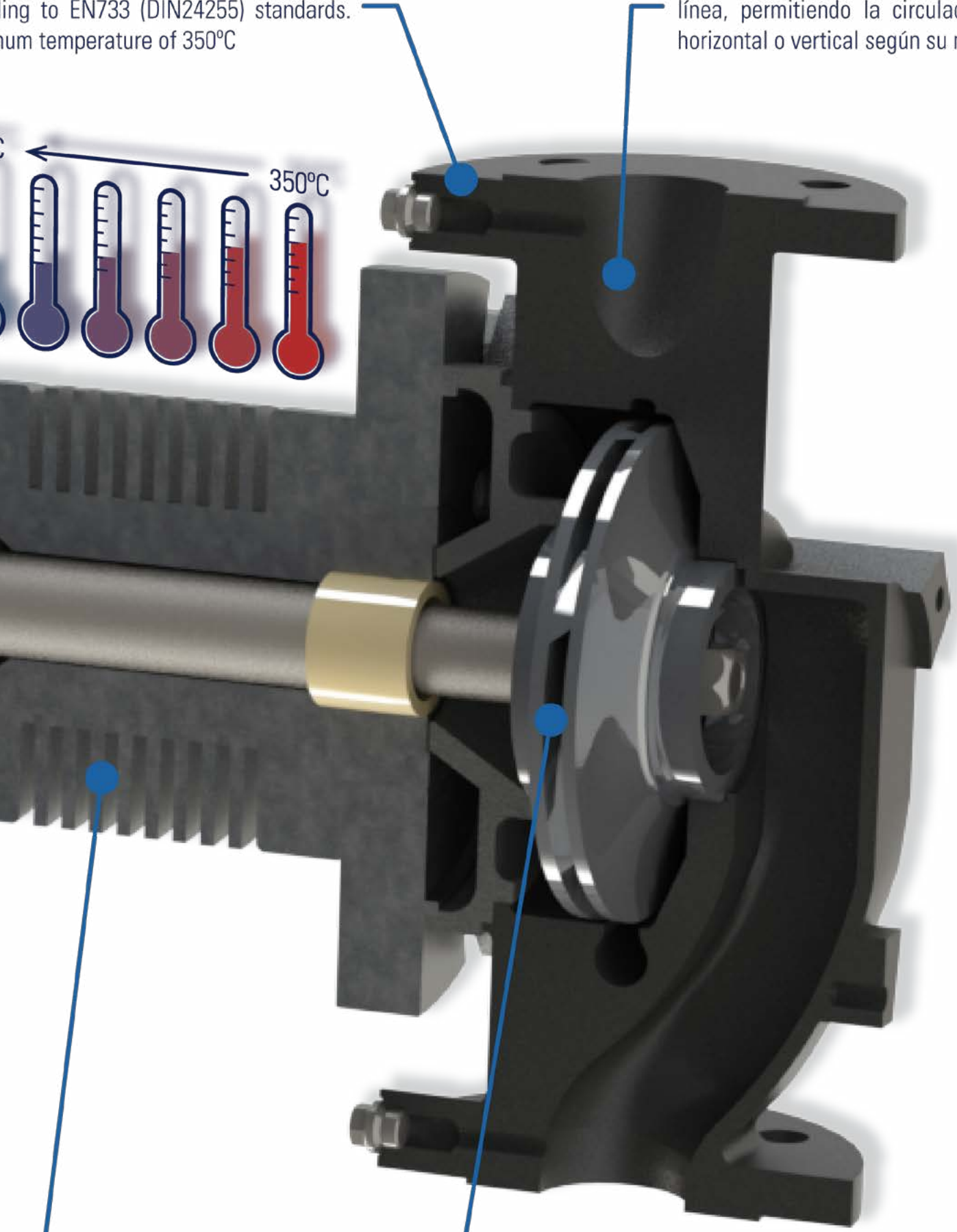
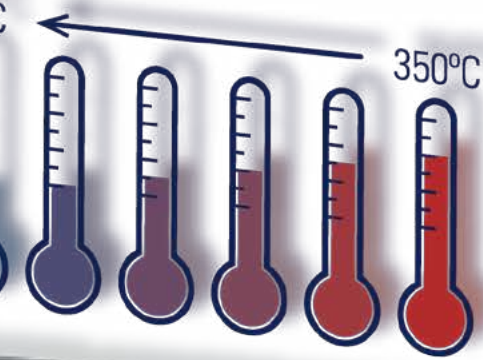


Support with anchoring system that
holds part of the weight of the equip-
ment and the pipes of the installation

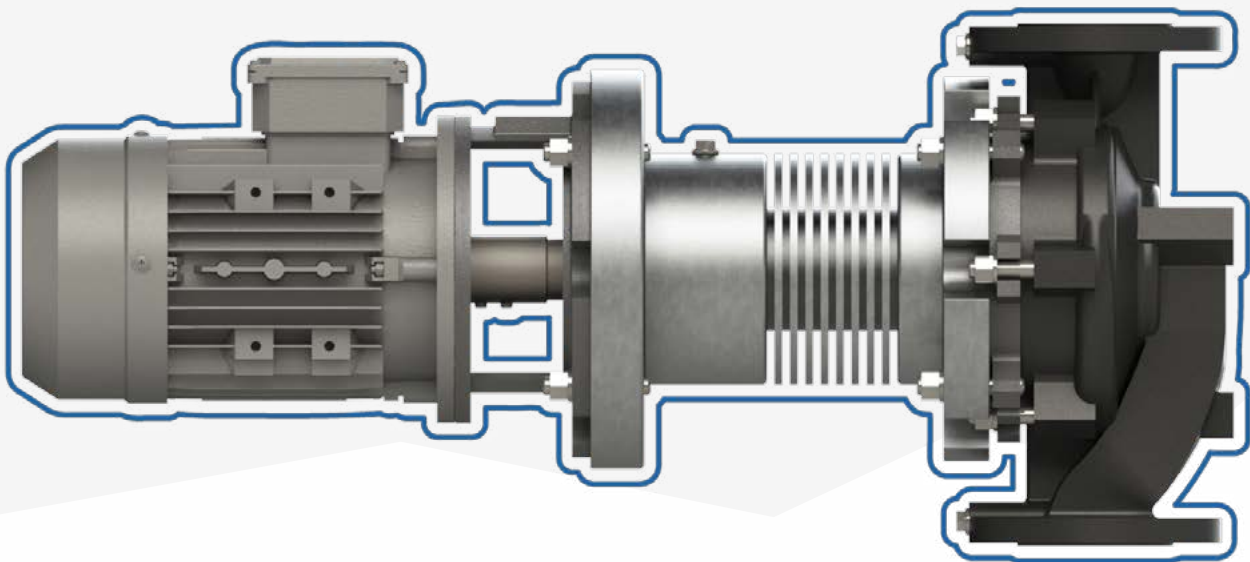
Fins of the heat sink

GG-20 pump casing. Hydraulics design
according to EN733 (DIN24255) standards.
Maximum temperature of 350°C

Bocas de aspiración e impulsión en
línea, permitiendo la circulación en
horizontal o vertical según su montaje



GG-20 Turbine



IAC-FT Series: In-line centrifugal pump for high temperatures

The IAC-FT series is a set of monoblock single-stage centrifugal electropumps with In-Line connection, which means that the pump discharge and pump suction nozzles lie in a straight line of piping, following EN733 (DIN 24255) standards. These pumps are specially designed to work in applications of high racking temperatures (up to 350°C), in vertical or horizontal position to accomplish its main function: the circulation of thermal fluid.

Specifications

Materials

Pump casing	GGG-40 Nodular cast iron
Impeller	GG-20 Cast iron
Pump shaft	F-114 or AISI 316
Heat sink	Perlitic cast iron
Mechanical seal	According to application
Lantern	GG-20 Cast iron

Technical data

Motor	Triphasic according to IEC 60034-30 standards
Efficiency	- IE2 or IE3 for powers > 1CV - IE1 if the power < 1CV - It can be supplied up to IE5
Tension	- Three-phase 230/400 V ± 10% up to 5,5 CV - Three-phase 400/600 V ± 10% from 7,5 CV
Poles	4 and 6
Degree of protection	IP55
Insulation	Class F inslutaion

Usage limits

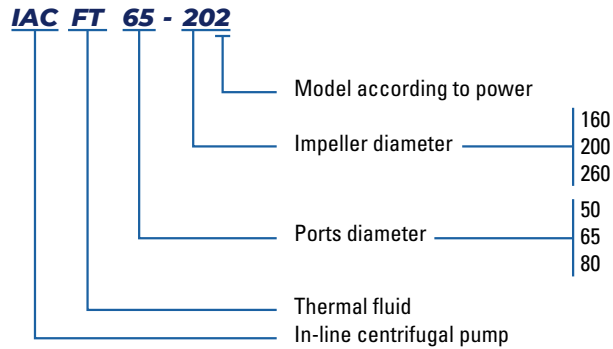
Range of flow rates	From 2 to 150 m ³ /h
Range of pressures	Up to 10 bar
Max. working pressure	16 bar
Max. working temperature	350°C

Connections

DNA	50-160 65-200/260 80-200	DN50 Flange DN65 Flange DN80 Flange
DNI	50-160 65-200/260 80-200	DN50 Flange DN65 Flange DN80 Flange

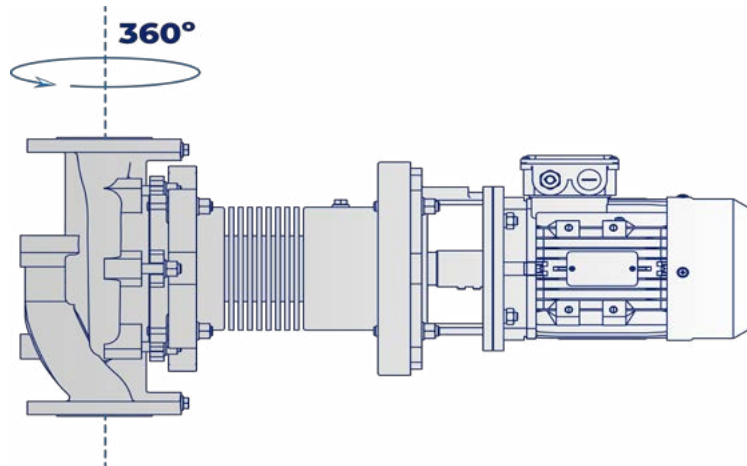
Design

Nomenclature

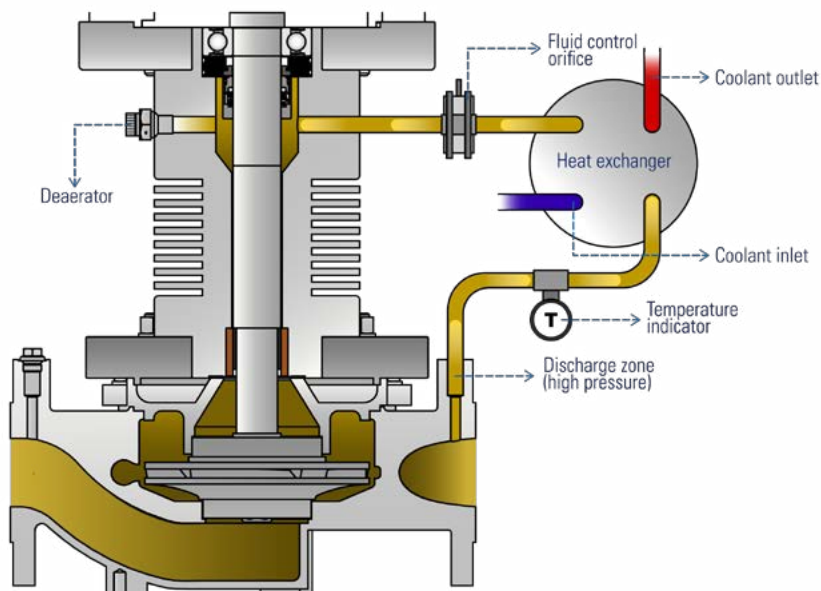


Installation

When the ports are vertically installed, the pump can rotate 360°C on the vertical axis.



When the ports are horizontally installed, the motor must be in a vertical position and always above the pump. It will be necessary to install a bleeder to release the air inside the pump and to settle an API 21 Plan to ensure optimum lubrication of the mechanical sealing.

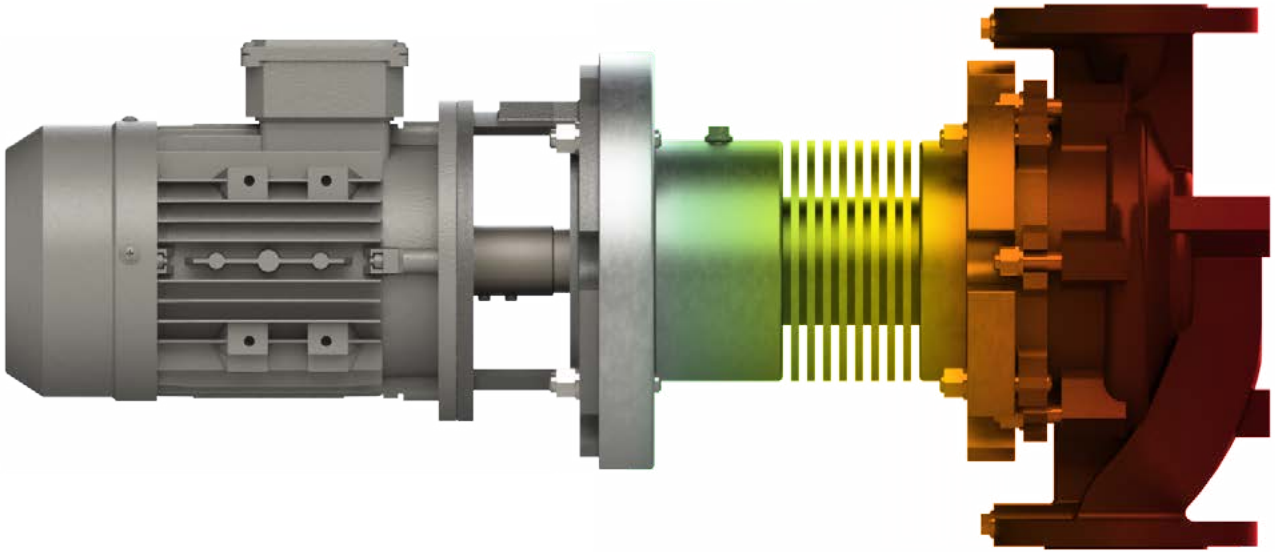




Heat dissipation

The main and distinctive feature of the IAC-FT series is none other than its ability to operate at elevated temperatures up to 350°C. The performance of the pump has been rigorously tested at Bomba Elias and verified by thermography tests. Therefore we can state that, as a result of the pumps design, the temperature of the working area is considerably reduced along the axial axis, ensuring the optimum condition of the seals, bearings and the mechanical seal.

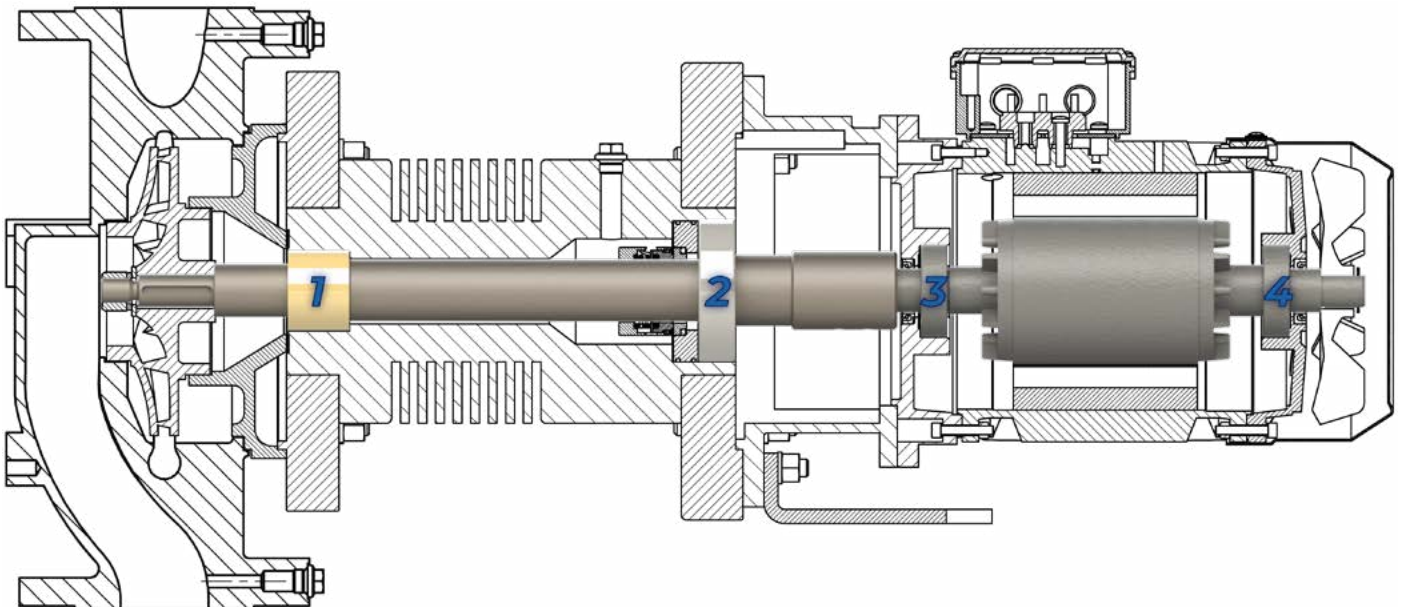
The heat sink reduces the temperature of the transfer fluid using its fins. The heat sink conducts the heat from the inner part, in contact with the fluid, to the outer part, and finally releases the heat to another place by radiation.



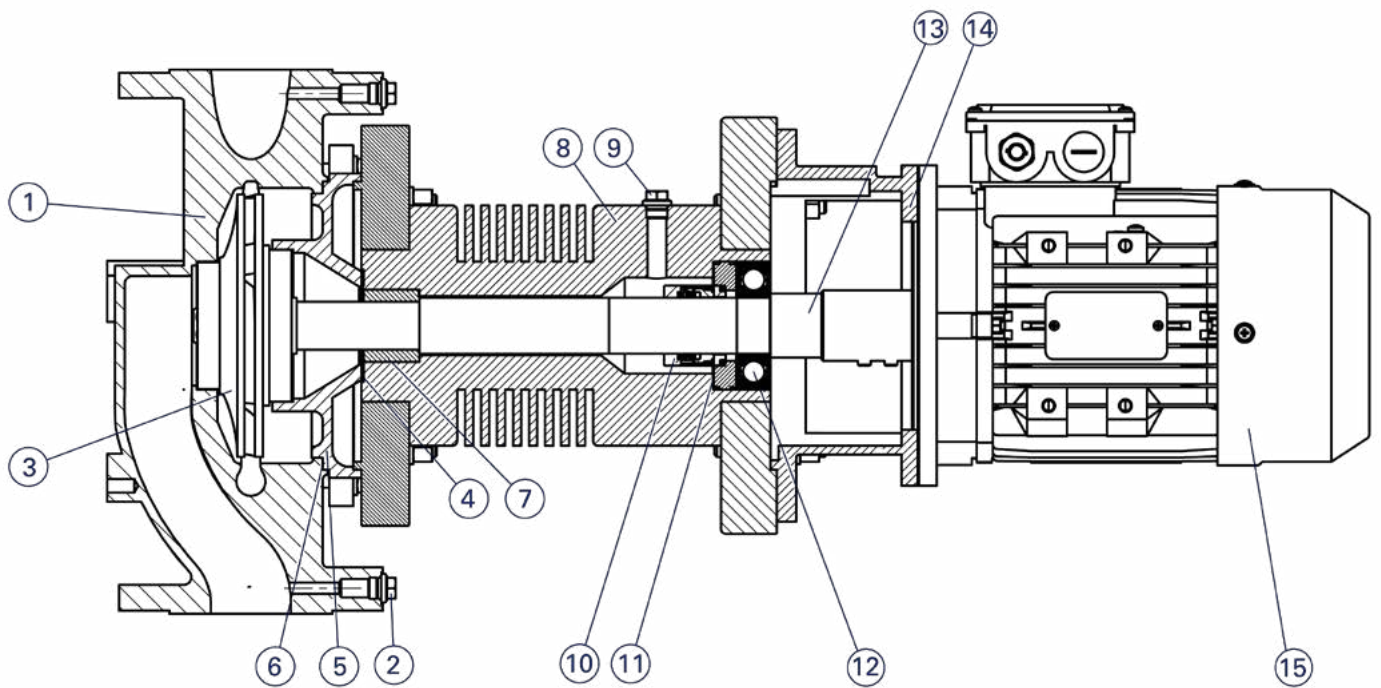
Shaft support

The pump shaft is joined to the end of the motor shaft by rigid coupling, which allows a smooth and frictionless operation, ensuring the best performance of the equipment.

The shaft is supported on four different points. These supports, properly distributed along the pump, provide excellent stability, assuring the correct functionality of the pump and increasing the lifetime expectancy of the equipment.



Exploded view of components



REF **Designation**

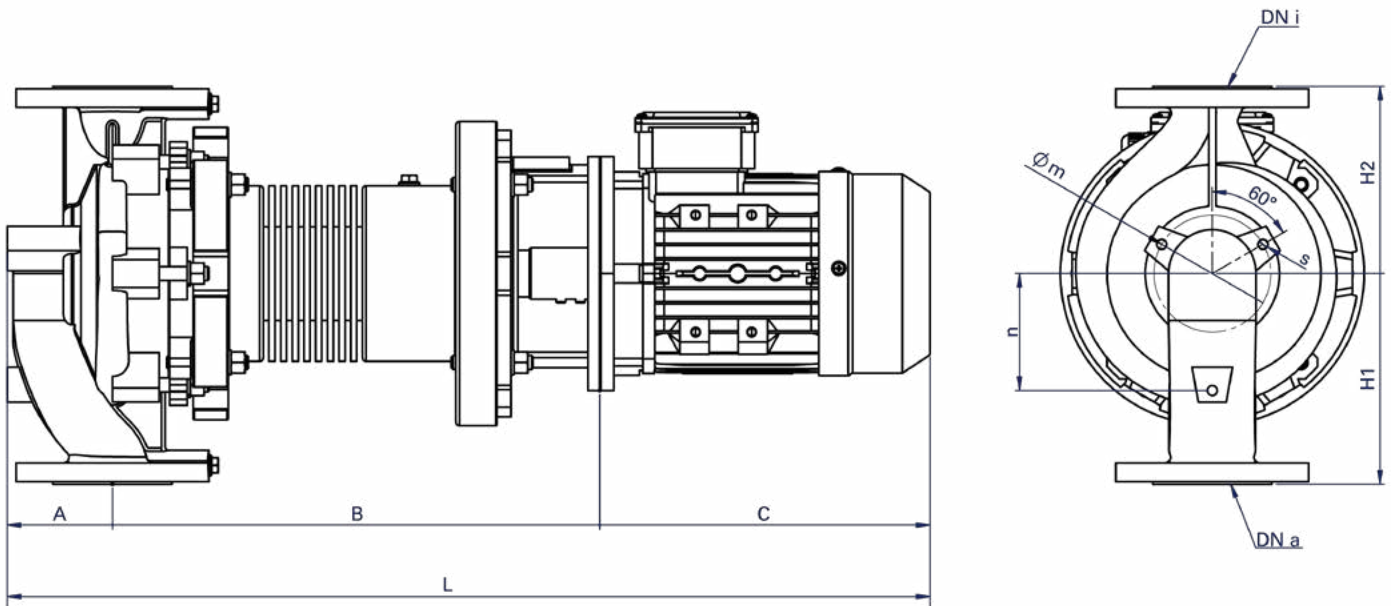
- 1** Pump casing
- 2** Casing plug
- 3** Impelle
- 4** Casing-cover joint
- 5** Cover
- 6** Cover-heat sink joint
- 7** Front bearing
- 8** Heat sink

REF **Designation**

- 9** Mechanical seal filling plug
- 10** Mechanical seal
- 11** mechanical seal joint
- 12** Ball bearing
- 13** Pump shaft
- 14** Lantern
- 15** Electric motor

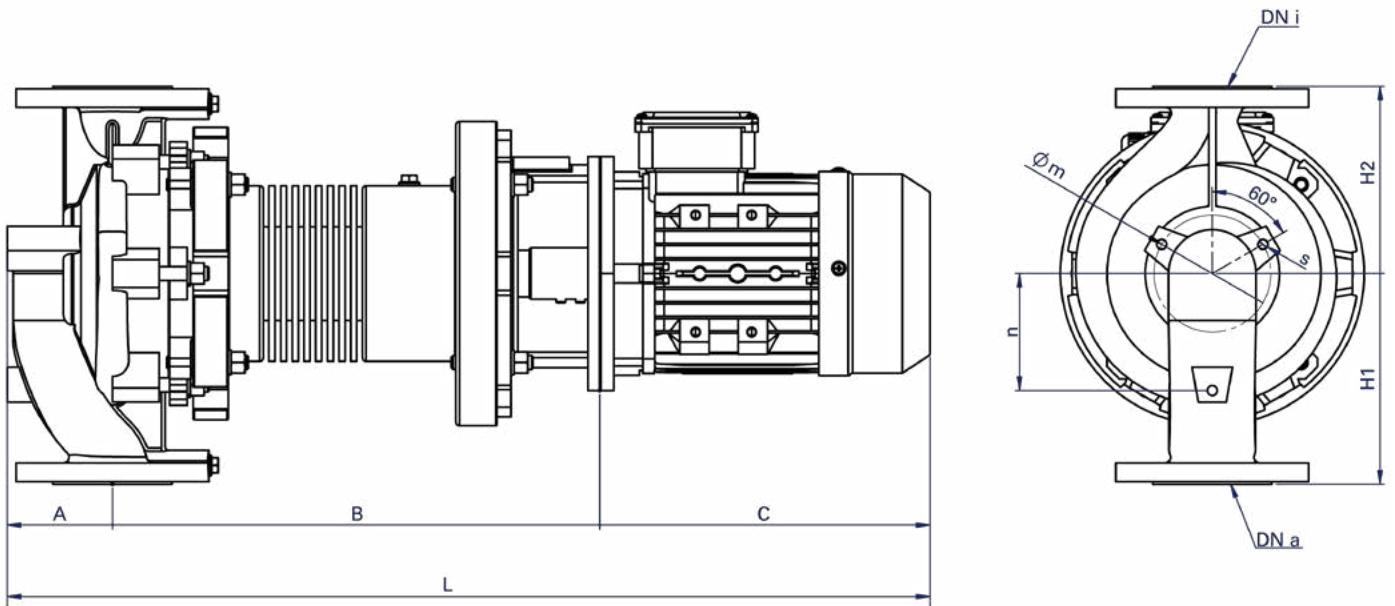


Dimensions table



$n=2900$ r.p.m.

Model	Motor		A	B	C	L	DNA	DNI	H1	H2	Øm	n	ØS
	CV	MEC											
50-165	3	90 L1	90	417	282	789	50	50	180	160	100	100	M10
50-164	4	100 L1	90	429	306	825	50	50	180	160	100	100	M10
50-163	4	100 L1	90	429	306	825	50	50	180	160	100	100	M10
50-162	5,5	112 M	90	429	328	847	50	50	180	160	100	100	M10
50-161	5,5	112 M	90	429	328	847	50	50	180	160	100	100	M10
50-161	7,5	132 S1	90	454	369	888	50	50	180	160	100	100	M10
65-205	7,5	132 S1	110	462	369	941	65	65	215	200	130	120	M10
65-204	10	132 S2	110	462	369	941	65	65	215	200	130	120	M10
65-203	10	132 S2	110	462	369	941	65	65	215	200	130	120	M10
65-203	15	160 M1	110	494	475	1079	65	65	215	200	130	120	M10
65-202	15	160 M1	110	494	475	1079	65	65	215	200	130	120	M10
65-201	15	160 M1	110	494	475	1079	65	65	215	200	130	120	M10
65-201	20	160 M2	110	494	475	1079	65	65	215	200	130	120	M10
80-205	15	160 M1	130	497	475	1102	80	80	250	225	170	145	M12
80-204	15	160 M1	130	497	475	1102	80	80	250	225	170	145	M12
80-204	20	160 M2	130	497	475	1102	80	80	250	225	170	145	M12
80-203	20	160 M2	130	497	475	1102	80	80	250	225	170	145	M12
80-202	20	160 M2	130	497	475	1102	80	80	250	225	170	145	M12
80-202	25	160 L	130	497	519	1146	80	80	250	225	170	145	M12



$n=1450$ r.p.m.

Model	Motor		A	B	C	L	DNA	DNI	H1	H2	Øm	n	ØS
	CV	MEC											
50-165	0,5	71 2	90	391	282	763	50	50	180	160	100	100	M10
50-164	0,5	71 2	90	391	306	787	50	50	180	160	100	100	M10
50-163	0,5	71 2	90	391	306	787	50	50	180	160	100	100	M10
50-162	0,75	71 3	90	391	328	809	50	50	180	160	100	100	M10
50-161	0,75	71 3	90	391	328	809	50	50	180	160	100	100	M10
65-205	1	80 2	110	417	369	896	65	65	215	200	130	120	M10
65-204	1	80 2	110	417	369	896	65	65	215	200	130	120	M10
65-203	1,5	80 3	110	417	369	896	65	65	215	200	130	120	M10
65-202	1,5	80 3	110	417	369	896	65	65	215	200	130	120	M10
65-201	2	90 L1	110	425	475	1010	65	65	215	200	130	120	M10
65-265	2	90 L1	115	428	475	1018	65	65	250	250	170	145	M12
65-264	2	90 L1	115	428	475	1018	65	65	250	250	170	145	M12
65-263	3	100 L2	115	440	519	1074	65	65	250	250	170	145	M12
65-262	4	100 L2	115	440	519	1074	65	65	250	250	170	145	M12
65-261	4	100 L2	115	440	519	1074	65	65	250	250	170	145	M12
80-205	2	90 L1	130	425	475	1030	80	80	250	225	170	145	M12
80-204	2	90 L1	130	425	475	1030	80	80	250	225	170	145	M12
80-203	3	90 L2	130	425	475	1030	80	80	250	225	170	145	M12
80-202	3	90 L2	130	425	475	1030	80	80	250	225	170	145	M12
80-201	4	100 L2	130	437	519	1086	80	80	250	225	170	145	M12



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* norm.

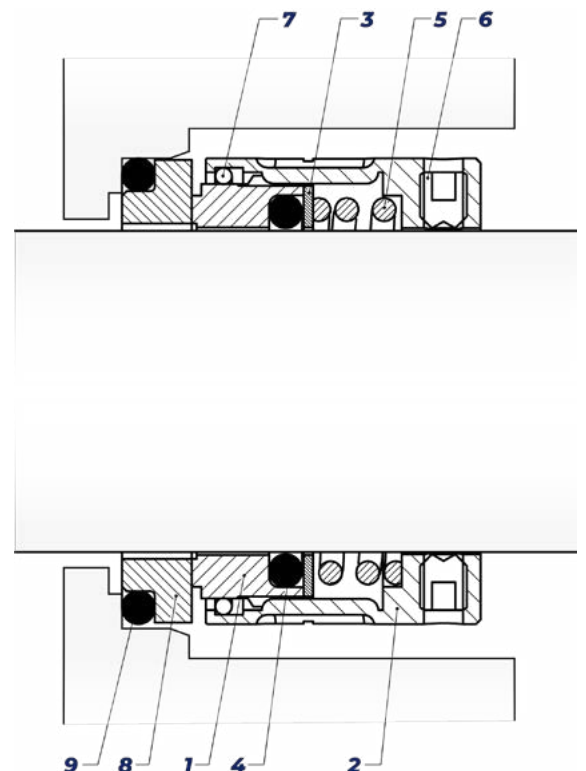


Usage limits

- 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)

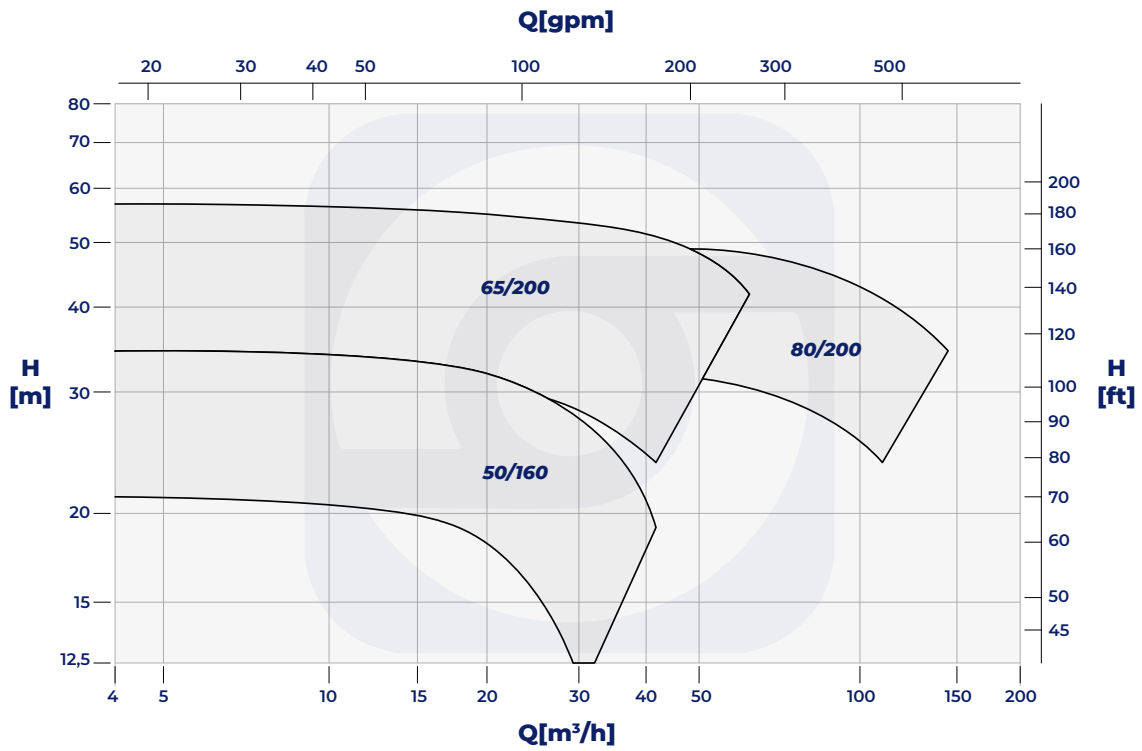
Exploded view of the assembly

REF	Designation	Material
1	Rotating ring	Carbon resin
2	Draging sleeve	CrNiMo-steel
3	Joint	CrNiMo-steel
4	Shaft Joint	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 joint	FPM (Viton)

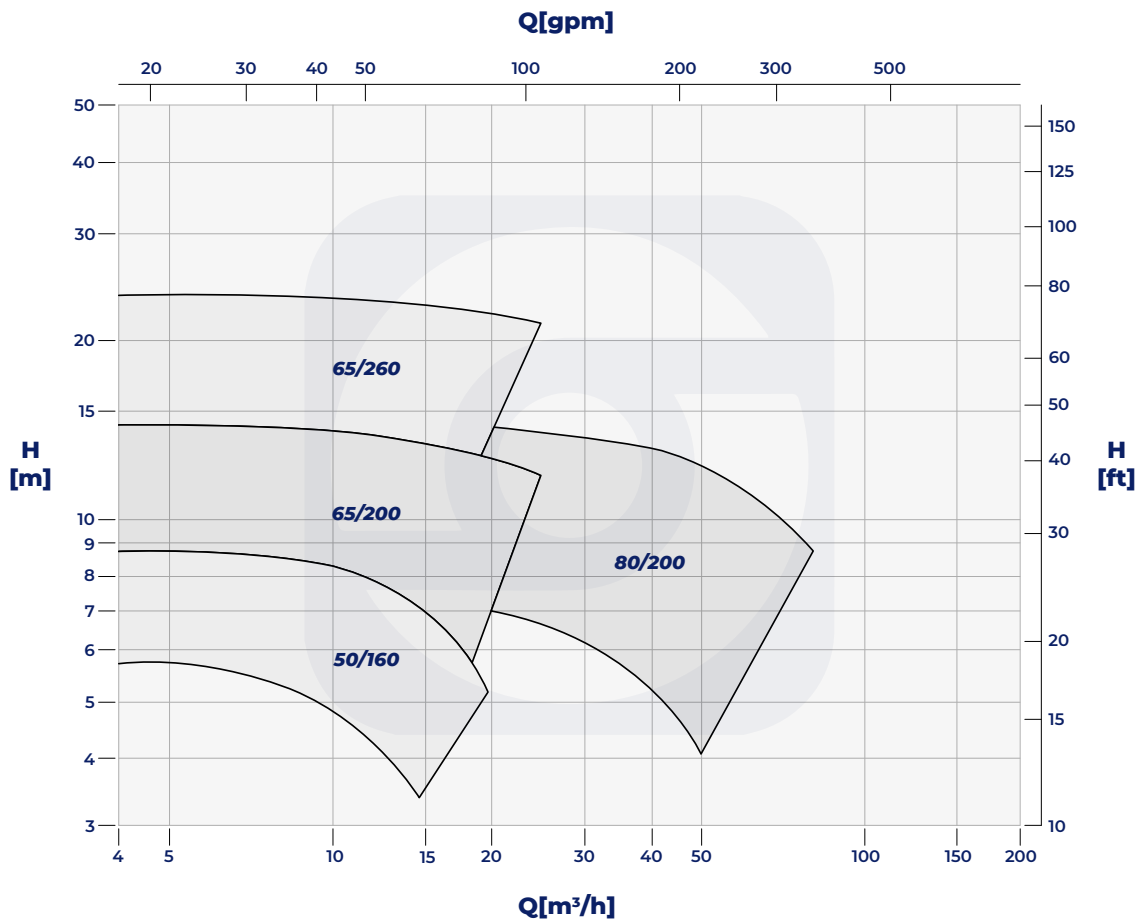


Pump selection curves

$n = 2900$ r.p.m.



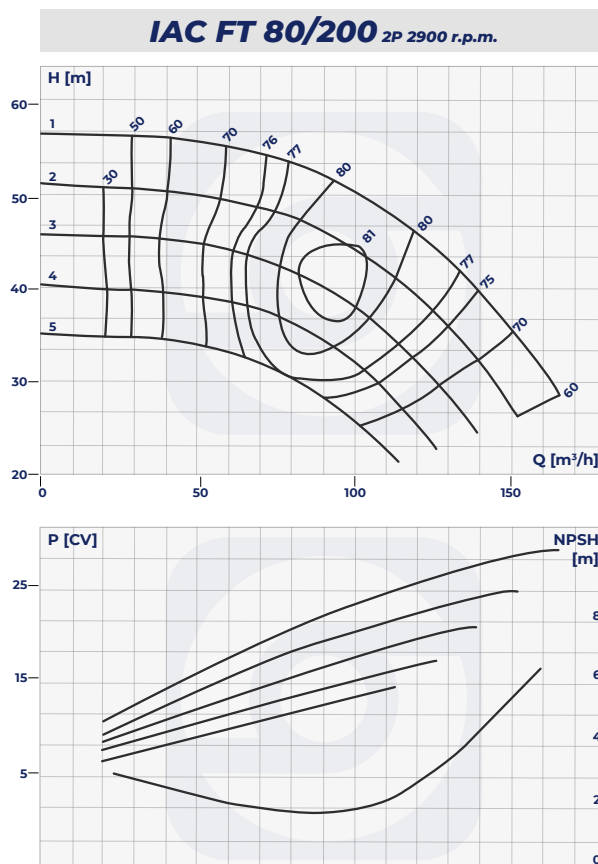
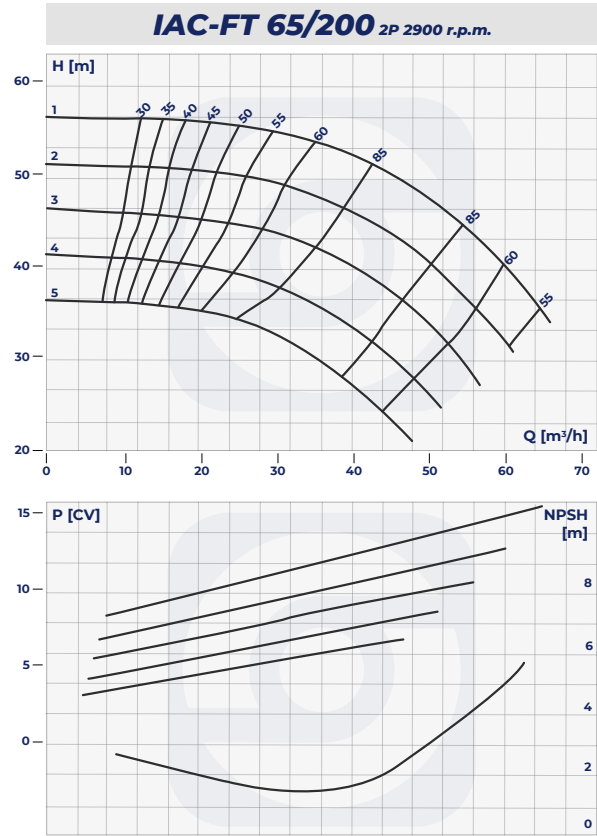
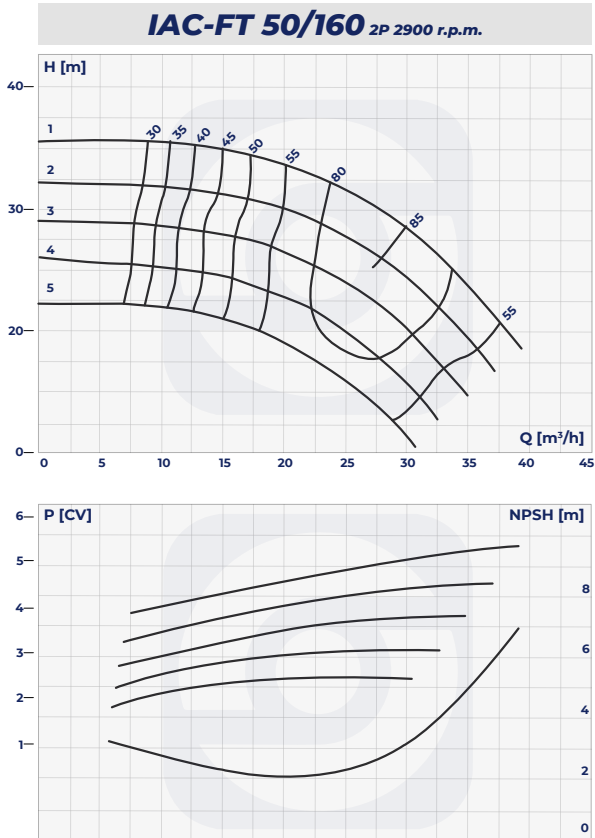
$n = 1450$ r.p.m.





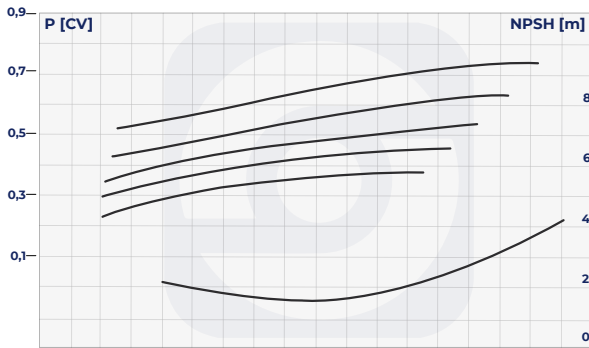
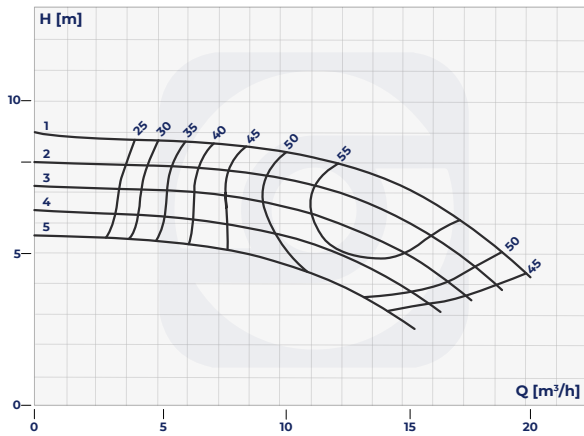
Curvas de funcionamiento

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

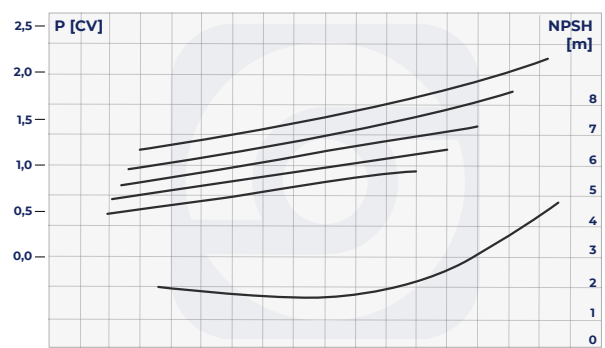
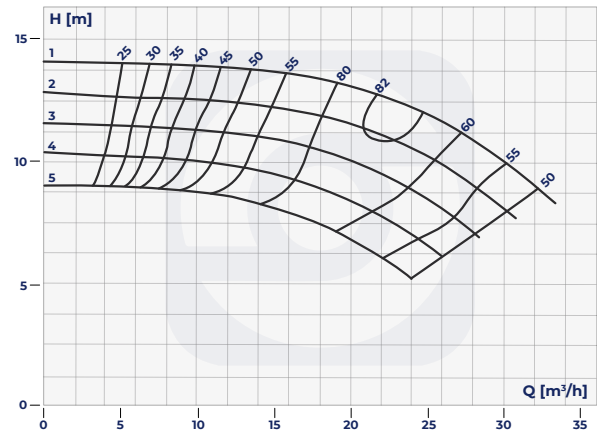


$n = 1450 \text{ r.p.m.}$

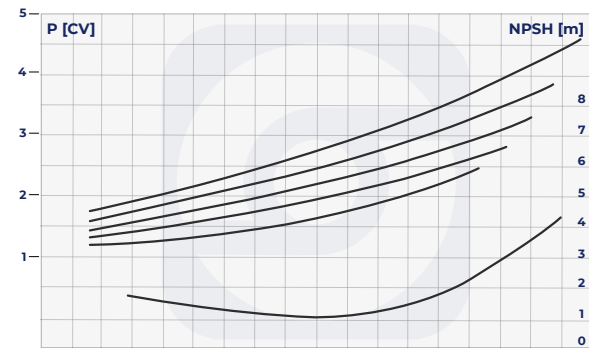
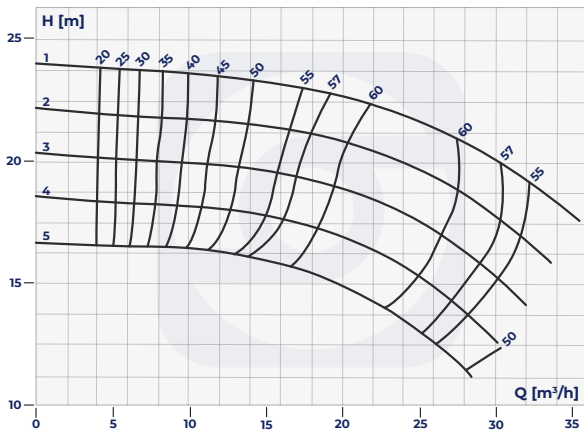
IAC FT 50/160 4P 1450 r.p.m.



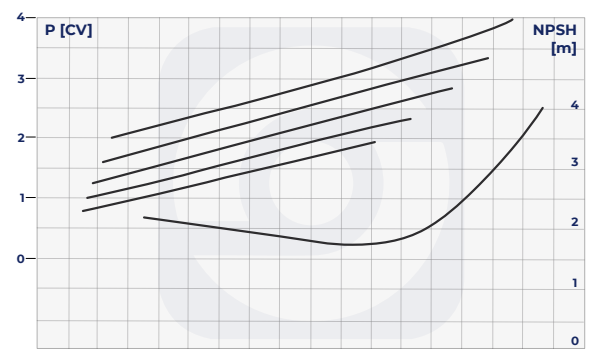
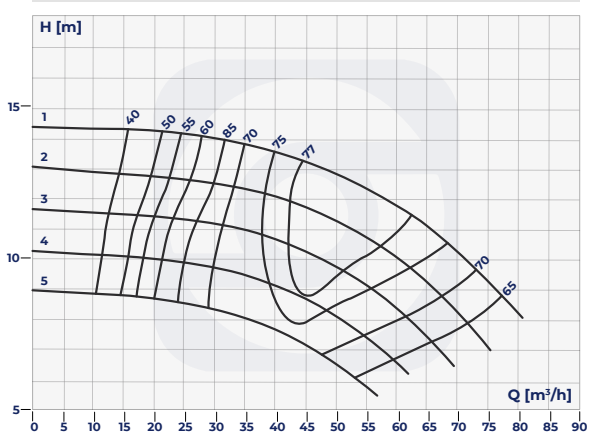
IAC FT 65/200 4P 1450 r.p.m.

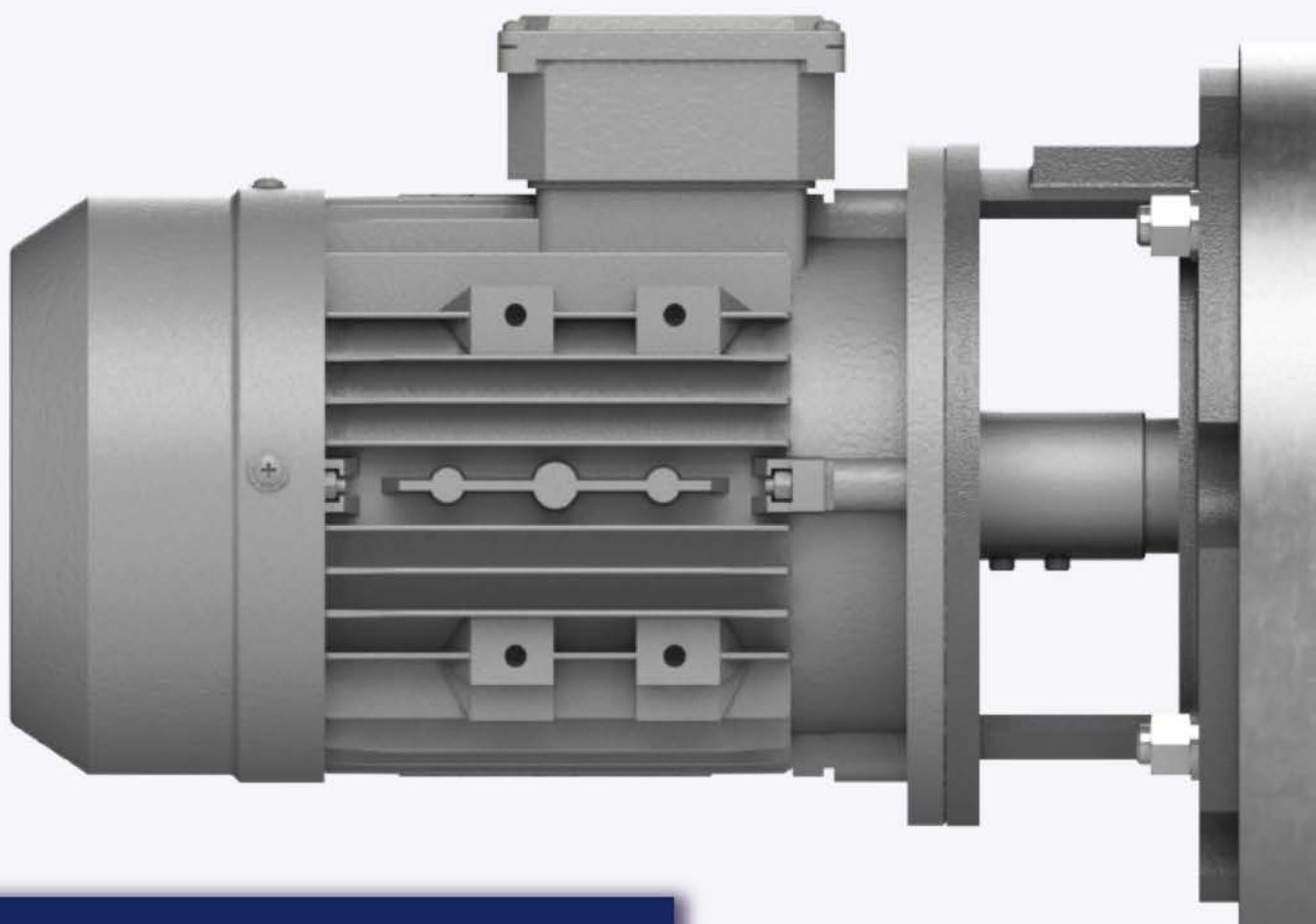


IAC FT 65/260 4P 1450 r.p.m.



IAC FT 80/200 4P 1450 r.p.m.





Crta. Molins de Rei a Rubí
(C-1413a) km 8,7
08191 Rubí (Barcelona)



+34 936 996 004
+34 936 971 609 FAX



www.elias.es



info@elias.es



[@bombaelias](https://www.instagram.com/bombaelias)



Bomba Elias

