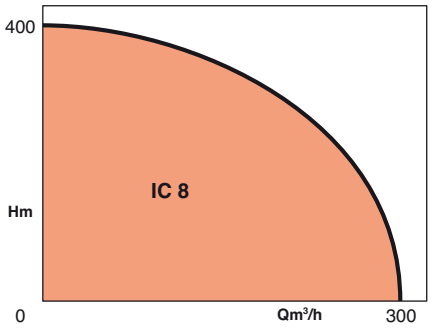
IC 8

SUBMERGED PUMPS
for 8″ bore holes
50 Hz

OPERATING RANGES

Flow rates of up to:	**300 m³/h**
Manometric heads of up to:	**400 mCE**
Max. water temperature:	**+3°to 30°C**
Max. sand content:	**50g/m³**
(nominal diameter) discharge :	**50 to 152 mm**
Reference MEI*: :	**≥ 0,10**

*Minimum Efficiency Index



APPLICATIONS

- Supplying water to towns and rural areas
- Watering and irrigation
- Pressure boosting
- Drawdown of groundwater on worksites
- Mine drainage
- Industrial applications

For any clean water pumping from water tables and deep wells.

ADVANTAGES

- **Very deep pumping.**
- **No maintenance: self-lubricating bearings and bushings.**
- **Bronze impellers and diffusers for an extended service life.**
- **Built-in non-return valve.**
- **Submerged Franklin motors satisfying the hygiene requirements for maintaining water purity.**
- **Vertical or horizontal installation according to the number of stages.**

• IC-8

IC 8

DESIGN

• Hydraulic part:

- Multi-stage centrifugal pump
- Radial impeller design for IC8-42
- Semi-axial impeller design for IC8-80 & IC8-100
- Stages are held together by tie rods (rather than by an external shell)

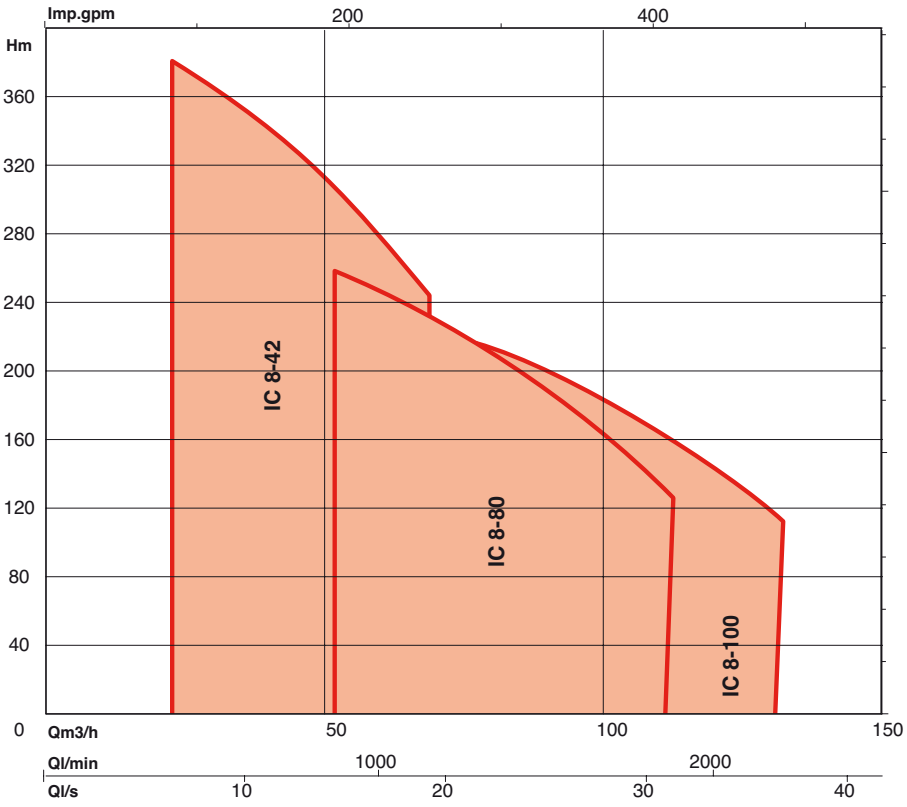
Suction housing between pump and motor protected by a suction mesh
Threaded suction housing with integral non-return valve

• Motor part (submerged 2,800 rpm):

- 2 poles, three-phase, rotor in short circuit.
- Stator coated or embedded in resin, depending on model of motor (NEMA).
- Generously dimensioned shaft supported by water-lubricated shaft bearings.
- Rigid coupling between pump and motor.
- Compensation chamber.
- Double-acting lower thrust plate absorbing the axial thrust.

Frequency:	50 Hz (option 60 Hz)
Insulation class:	155 (F)
Protection:	IP 68
Min. water velocity:	
in the borehole:	16 cm/s
Starts/hour:	20 max.
Three-phase voltage	(50Hz): 400V +6%-10%
	(60Hz): 380V ±6%

HYDRAULIC PRESELECTION RANGES



IDENTIFICATION

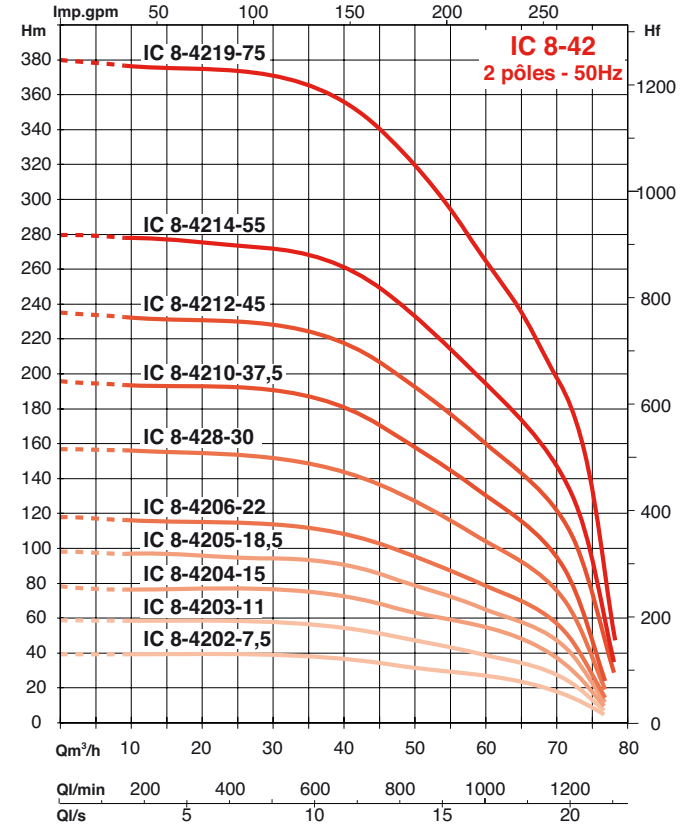
IC 8-80 12 -B

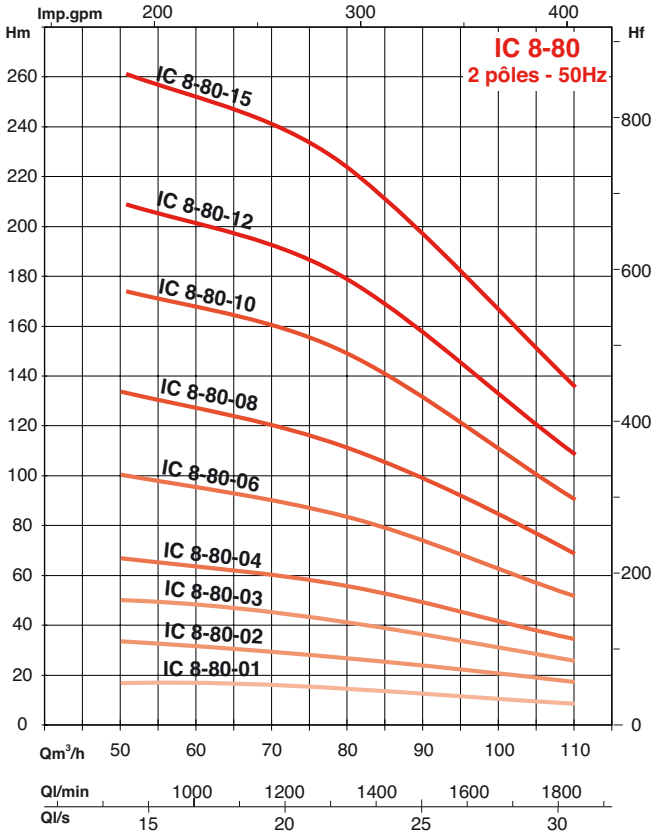
- Pump code
- DN pump in inches
- Nominal flow rate in m^3/h
- Number of stages
- Technical development index

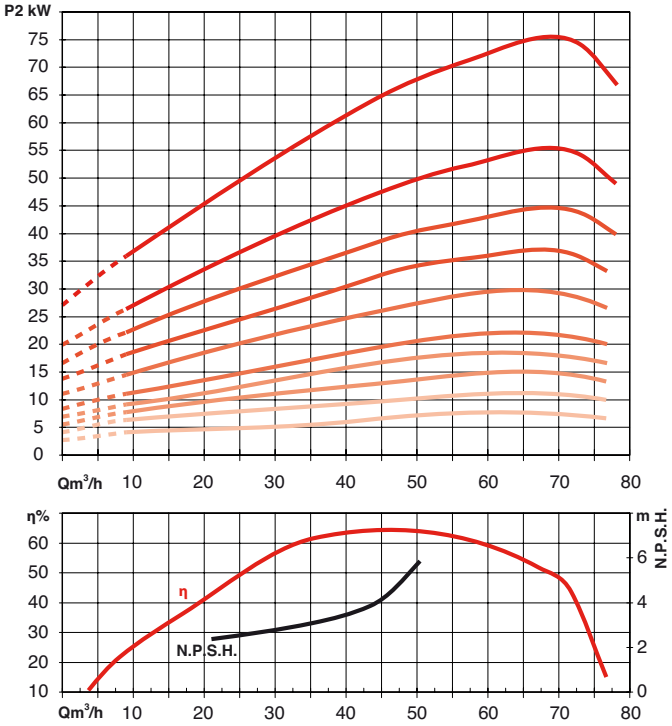
BASIC CONSTRUCTION

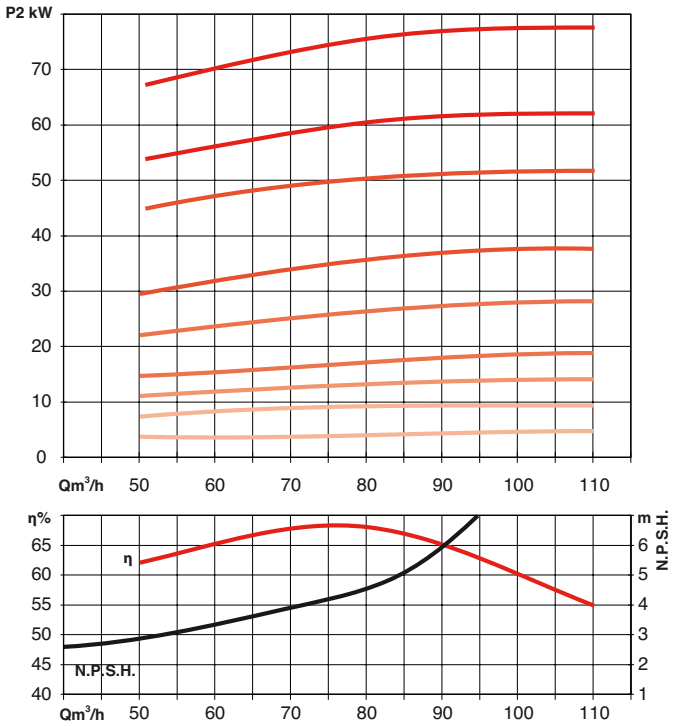
Parts		Materials
Main	IC8-42	IC8-80, IC8-100,
Delivery valve housing	GG20	GG20
Suction housing	GG20	GG20
Stage housing	GG20	-
Diffuser	BRONZE	-
Diffuser insert housing	-	GG 20
Impeller	BRONZE	BRONZE
Suction ring	-	BRONZE
Strainer	AISI 304 - 1,4301	AISI 304 - 1,4301
Junction	AISI 410 - 1,4006	AISI 410 - 1,4006
Jacket under bearing bushing	AISI 410 - 1,4006	AISI 410 - 1,4006
Bearing bushing	BRONZE	BRONZE
Tie rods	En-3A(BS970) - 1,0402	-
Shaft	AISI 410 - 1,4006	AISI 410 - 1,4006

HYDRAULIC PERFORMANCES









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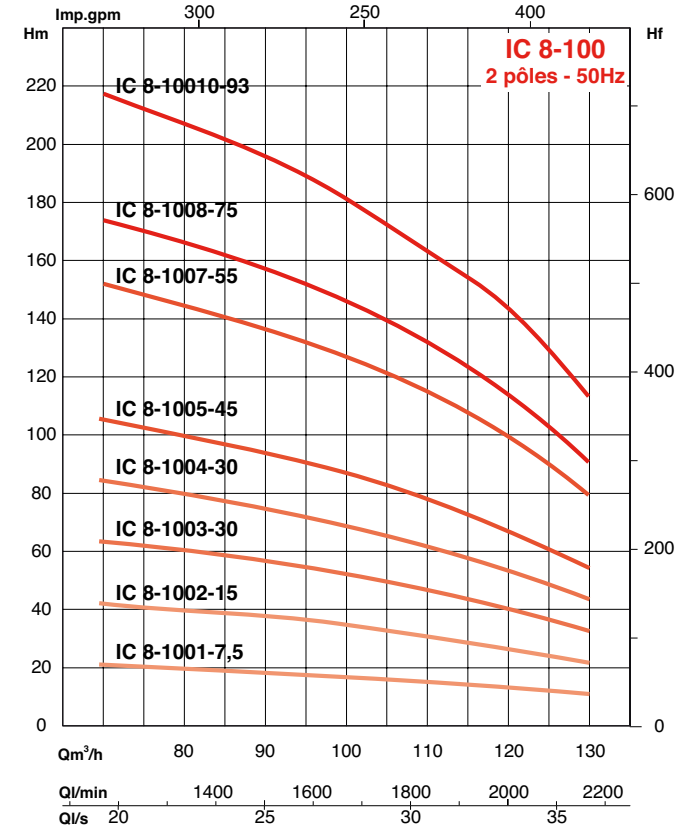
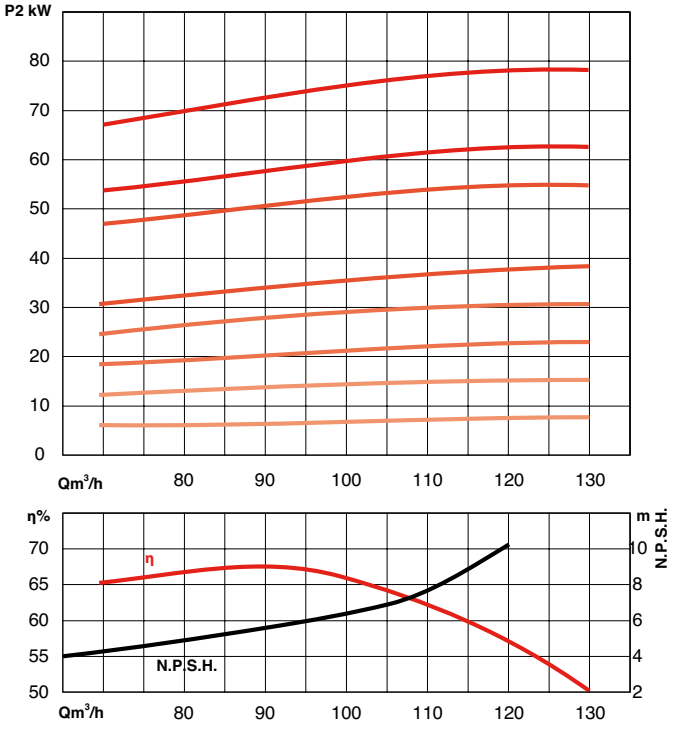
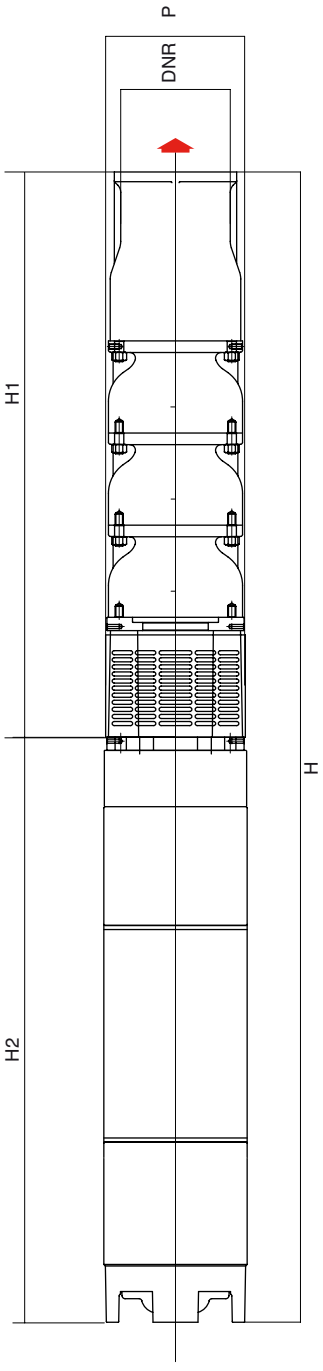
HYDRAULIC PERFORMANCES





ELECTRICAL AND DIMENSIONAL SPECIFICATIONS

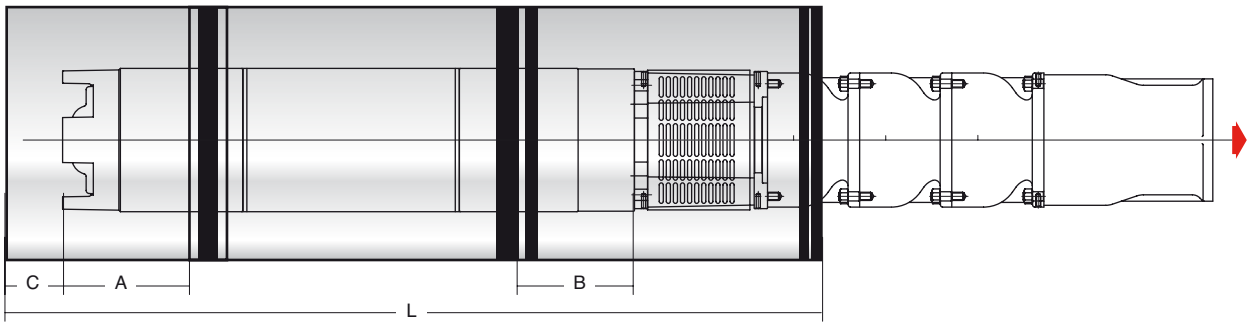
Reference	no. of impellers	Motor P2	Motor size	Cable Ø	Cable L	Current (3-400V)	DNR	Dimensions P	Dimensions H	Dimensions H1	Dimensions H2	Mass with pack.
		kW		mm2	m	A		mm	mm	mm	mm	kg
IC8-4202-B	02	7,5	6”	4 X 4	4	16,0	3”	190	1294	646	648	89,5
IC8-4203-B	03	11	6”	4 X 4	4	23,3	3”	190	1424	711	713	101,7
IC8-4204-B / IC8-4204-B-SD	04	15	6”	4 X 4	4	31,3	3”	190	1554	776	778	114
IC8-4205-B / IC8-4205-B-SD	05	18,5	6”	4 X 4	4	38,5	3”	190	1685	842	843	127,1
IC8-4206-B / IC8-4206-B-SD	06	22	6”	4 X 8,4	4	45,3	3”	190	1815	907	908	141,1
IC8-4208-B / IC8-4208-B-SD	08	30	6”	4 X 8,4	4	63,5	3”	190	2075	1037	1038	168,4
IC8-4210-B	10	37	6”	4 X 8,4	4	73,0	3”	190	2573	1405	1168	208,2
IC8-4212-B	12	45	6”	4 X 8,4	4	89,5	3”	190	2856	1558	1298	236,2
IC8-4214-B	14	55	8”	3 X 16	8	108,0	3”	190	2624,2	1204	1420,2	298,5
IC8-4219-B	19	75	8”	3 X 16	8	145,0	3”	190	3176,6	1395	1781,6	370,7
IC8-8001-B	01	5,5	6”	4 X 4	4	13,7	4”	190	1137,5	614	523,5	68,9
IC8-8002-B	02	11	6”	4 X 4	4	23,3	4”	190	1354,5	711	643,5	88,7
IC8-8003-B / IC8-8003-B-SD	03	15	6”	4 X 4	4	31,3	4”	190	1539,5	776	763,5	104,5
IC8-8004-B / IC8-8004-B-SD	04	22	6”	4 X 8,4	4	45,3	4”	190	1790,5	907	883,5	128,6
IC8-8006-B / IC8-8006-B-SD	06	30	6”	4 X 8,4	4	63,5	4”	190	2160,5	1037	1123,5	162,9
IC8-8008-B	08	45	6”	4 X 8,4	4	73,0	4”	190	2768,5	1405	1363,5	216,2
IC8-8010-B	10	55	8”	3 X 16	8	108,0	4”	190	2921,5	1558	1632,1	236,2
IC8-8012-B	12	75	8”	3 X 16	8	108,0	4”	190	3267,1	1204	1395	414,2
IC8-8015-B	15	93	8”	3 X 16	8	145,0	4”	190	3979,1	1747	2232,1	406,2
IC8-10001-B	01	9,3	6”	4 X 4	4	20,7	5”	190	1241	679	562	83,3
IC8-10002-B / IC8-10002-B-SD	02	18,5	6”	4 X 8,4	4	38,5	5”	190	1534	842	692	112,1
IC8-10003-B / IC8-10003-B-SD	03	30	6”	4 X 8,4	4	63,5	5”	190	1859	1037	822	143,9
IC8-10004-B / IC8-10004-B-SD	04	30	6”	4 X 8,4	4	63,5	5”	190	1989	1037	952	155,4
IC8-10005-B	05	45	6”	4 X 8,4	4	89,5	5”	190	2640	1558	1082	215,2
IC8-10007-B	07	55	8”	3 X 16	8	108,0	5”	190	2574,6	1204	1370,6	289,2
IC8-10008-B	08	75	8”	3 X 16	8	145,0	5”	190	2895,6	1395	1500,6	338,7
IC8-10010-B	10	93	8”	3 X 16	8	190,0	5”	190	3507,6	1747	1760,6	439,7



IC 8

INSTALLATION DIAGRAM FOR SKIRTS IN VERTICAL POSITION

• **1-jacket skirts**



TYPE	Ø jacket	Ø Motor	Lg L	jacket n x l	spacer Ø x n	collars Ø x n	gasket	A	B	C	L/2	L/3	Weight Kg
IC8-4202-B			930					215	140	120	-	-	89,5
	220	134,5		1x1000	220/134,5 x 2	220 x 3							
IC8-4203-B	220	134,5	995	1x1000	220/134,5 x 2	220 x 3	8" 42	215	140	55	-	-	101,7
	220	134,5		1x1000	220/134,5 x 2	220 x 3							
IC8-4204-B			1060					215	140	0	-	-	114
IC8-4205-B	220	134,5	1126	2x750	220/134,5 x 3	220 x 4	8" 42	215	140	50	-	-	127,1
IC8-8001-B			854					215	140	196	-	-	68,9
	220	134,5		1x1000	220/134,5 x 2	220 x 3							
IC8-8002-B	220	134,5	961	1x1000	220/134,5 x 2	220 x 3	8" 80	215	140	89	-	-	88,7
	220	134,5		1x1000	220/134,5 x 2	220 x 3							
IC8-8003-B			1026					215	140	24	-	-	104,5
IC8-10001-B	220	134,5	957	1x1000	220/134,5 x 2	220 x 3	8" 100	215	140	93	-	-	83,3

CHARACTERISTICS OF COOLING SKIRTS

If the borehole diameter is too big in relation to the pump diameter, or for installation in a tank, the fluid speed will not be sufficient to cool the motor. A cooling skirt will then be necessary.
To check whether a skirt should be installed, refer to the technical data sheet: COOLING SKIRTS
Skirt made of AISI 316 100% stainless steel

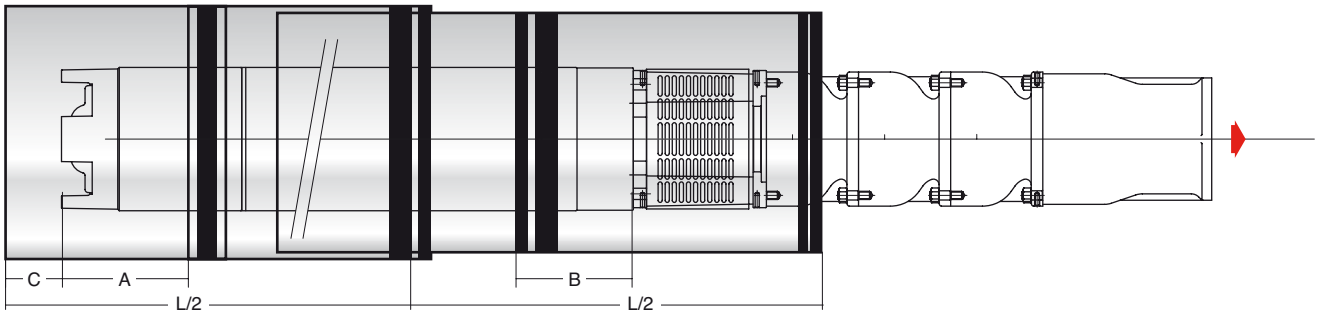
For vertical installation:
- Motor cooling jacket(s)
- Spacers for centring the motor in the skirt
- Clamping collars for securing skirts and spacers
- Skirt end gasket to be positioned between the skirt and the hydraulics

For horizontal installations:
- Motor cooling jacket(s)
- Spacers for centring the motor in the skirt
- Clamping collars for securing skirts and spacers
- Skirt end gasket to be positioned between the skirt and the hydraulics
- Supports (motor and hydraulics) for stabilising the pump in the horizontal position

We offer vertical installation kits which are different from horizontal installation kits.
All of the accessories listed above are included in each of the kits.

INSTALLATION DIAGRAM FOR SKIRTS IN VERTICAL POSITION

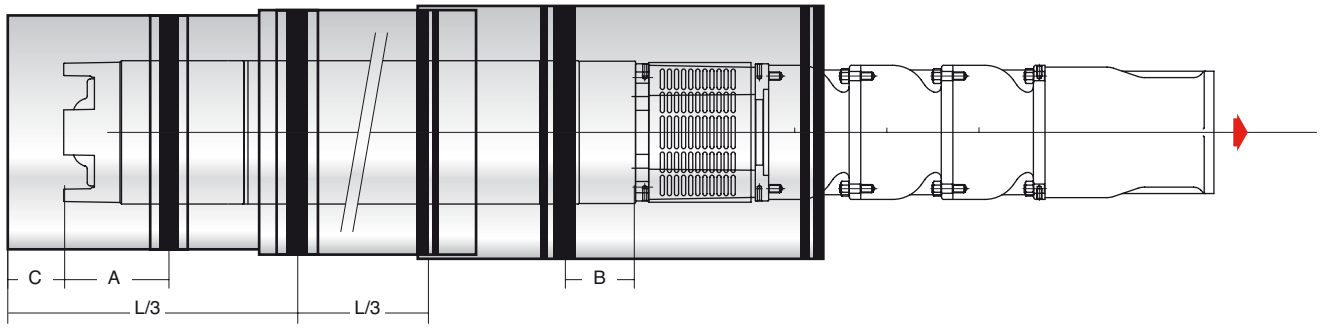
• 2-jacket skirts



TYPE	Ø jacket	Ø Motor	Lg L	jacket n x l	spacer Ø x n	collars Ø x n	gasket	A	B	C	L/2	L/3	weight Kg
IC8-4205-B			1126					215	140	50	L/2	-	127,1
IC8-4206-B	220	134,5	1191	2x750	220/134,5x3	220x4		215	140	50	L/2	-	141,1
IC8-4208-B	220	134,5	1321	2x750	220/134,5x3	220x4		215	140	50	L/2	-	168,4
IC8-4210-B	220	134,5	1689	2x1000	220/134,5x3	220x4	8» 42	215	140	50	L/2	-	208,2
IC8-4212-B	220	134,5	1842	2x1000	220/134,5x3	220x4		215	140	50	L/2	-	236,2
IC8-4214-B	220	187	1516	1x750+1x1000	220/187x3	220x4	8» 42	260	190	50	L/2	-	300,2
IC8-4219-B	220	187	1705	2x1000	220/187x3	220x4	8» 42	260	190	50	L/2	-	370,7
IC8-8004-B	220	134,5	1157	2x750	220/134,5x3	220x4	8» 80	215	140	50	L/2	-	128,6
IC8-8006-B	220	134,5	1287	2x750	220/134,5x3	220x4		215	140	50	L/2	-	162,9
IC8-8008-B	220	134,5	1808	2x1000	220/134,5x3	220x4	8» 80	215	140	50	L/2	-	231,2
IC8-8010-B	220	187	1482	1x750+1x1000	220/187x3	220x4	8» 80	260	190	50	L/2	-	302,2
IC8-8012-B	220	187	1673	2x1000	220/187x3	220x4	8» 80	260	190	50	L/2	-	360,2
IC8-10002-B	220	134,5	1130	2x750	220/134,5x3	220x4		215	140	50	L/2	-	112,1
IC8-10003-B	220	134,5	1325	2x750	220/134,5x3	220x4	8» 100	215	140	50	L/2	-	143,9
IC8-10004-B	220	134,5	1325	2x750	220/134,5x3	220x4		215	140	50	L/2	-	155,4
IC8-10005-B	220	134,5	1846	2x1000	220/134,5x3	220x4	8» 100	215	140	50	L/2	-	215,2
IC8-10007-B	220	187	1518	1x750+1x1000	220/187x3	220x4	8» 100	260	190	50	L/2	-	289,2
IC8-10008-B	220	187	1705	2x1000	220/187x3	220x4	8» 100	260	190	50	L/2	-	338,7

INSTALLATION DIAGRAM FOR SKIRTS IN HORIZONTALE POSITION

• 3-jacket skirts



TYPE	Ø Skirt	Ø Motor	Lg L	Skirt n x l	Spacer Ø x n	Collars Ø x n	Gaskets	A	B	C	L/2	L/3	Weight Kg
IC8-8015-B	220	187	2025	2x750+1x1000	220/187x4	220x4	8“ 80	260	190	50	-	L/3	458,2
IC8-10010-B	220	187	2061	2x750+1x1000	220/187x4	220x5	8“ 100	260	190	50	-	L/3	439,7

IC 8

CABLES AND JUNCTIONS

Maximum cable length (in m) according to motor capacity and cable cross-section (400 V three-phase supply)

In	P2	Cable cross-section in mm2																
A	kW	4x1.5	4x2.5	4x4	4x6	4x10	4x16	4x25	4x35	4x50	4x70	4x95	4x120	4x150	4x185	4x240	4x300	4x400
5.9	2.2	120	199	317	472	775	—	—	—	—	—	—	—	—	—	—	—	—
7.8	3	90	154	245	364	598	—	—	—	—	—	—	—	—	—	—	—	—
10	4	69	114	182	271	444	685	—	—	—	—	—	—	—	—	—	—	—
13.7	5.5	50	83	130	197	324	509	—	—	—	—	—	—	—	—	—	—	—
16	7.5	40	66	105	156	257	404	616	—	—	—	—	—	—	—	—	—	—
23.3	11	—	45	72	107	176	278	423	577	—	—	—	—	—	—	—	—	—
31.3	15	—	—	—	80	132	208	317	452	595	—	—	—	—	—	—	—	—
38.5	18.5	—	—	—	65	107	168	256	348	481	645	—	—	—	—	—	—	—
45.3	22	—	—	—	—	90	142	215	295	407	545	704	—	—	—	—	—	—
61.8	30	—	—	—	—	—	108	164	223	306	408	522	622	—	—	—	—	—
73	37	—	—	—	—	—	86	131	179	248	335	434	524	623	—	—	—	—
89.5	45	—	—	—	—	—	—	112	152	209	279	358	426	502	580	—	—	—
108	55	—	—	—	—	—	—	—	124	170	228	293	351	414	481	571	—	—
144	75	—	—	—	—	—	—	—	—	129	173	223	267	316	367	437	500	583
187	93	—	—	—	—	—	—	—	—	—	134	172	205	241	279	330	375	433
220	110	—	—	—	—	—	—	—	—	—	—	145	174	205	237	281	320	370
248	132	—	—	—	—	—	—	—	—	—	—	—	150	175	195	235	285	330

CABLES AND JUNCTIONS

Heat-shrinkable junctions

Name	Cross-section	Order ref.
junction 0	4x1,5 / 4x2,5	4029677
junction 1	4x4 / 4x6	4059212
junction 2	4x10 / 4x16	4029678
junction 3	4x25 / 4x35	18294

Junction boxes (mm)

Name	Cross-section	Order ref.
Junction box 1	4x1,5 a 4x2,5	4065698
Junction box 2	4x4 a 4x10	4065699
Junction box 3	4x16 a 4x35	4065700
Junction box 4	4x50 a 4x70	4065701
Junction box 15	4x95 a 4x150	4065702
Junction box 16	4x185	4065703
* Contact us for price.		

Power cable (sold per metre)

Cross-section mm2	cable round type	Order ref.
4 x 1.5	•	018156
4 x 2.5	•	018157
4 x 4	•	018158
4 x 6	•	018159
4 x 10	•	018160
4 x 16	•	018161
Contact us about larger sizes.		

Options

Level-sensing electrode and power cable	
CABLELEC 1 X 1.5 mm2	064904
ELECTRODE	064873

SPECIFICITIES

a) Electrical

- All types in three-phase.
- Connection to mains power via the flat cable on the motor by heat-shrinkable junctions (1.5 to 25 mm2) or by junction boxes (all cross-sections) and 4-conductor flat cables.

ATTENTION

Make sure that the borehole diameter can accommodate the discharge piping and the junction box.

Provide a control and low-water protection box or cabinet with level-sensing electrodes or a float switch.

b) Installation

- Vertically (horizontal position also possible).
- Connection to discharge by threaded steel piping - Ø 2" to 6" depending on model of pump.

NB

For deep wells (of larger diameter than a borehole) it is recommended to equip the pump with a cooling skirt.

c) Packaging

- Pump delivered in a wooden crate with power cable (for direct starting versions only):
- 8" motor: length 8 m - 4x8.4mm^2, for 55-93kW and 3x35mm^2 for 110-150kW.

d) Maintenance

- Repair of hydraulic part and motor.

ACCESSORIES

- Control and low-water protection box or cabinet.
- Level-sensing electrodes.
- Electric cable.
- Heat-shrinkable junctions.
- Cooling skirt (see table).
- Non-return valves.
- Shut-off valves.
- Bladder (or galvanised) tanks).
- Stainless steel cooling skirts, see technical data sheet: COOLING SKIRTS
- Pressure gauge, etc.