

**Forced vent units frame size 63 to 200
ILI-series**



In the course of a continuous improvement process, WISTRO will replace the successful IL external fan series with the new ILI external fan series. After sizes 132 and 160 (and therefore also size 180 and size 200) have benefitted from the improvements, frame size 63 up to 112 are following. The improvements are mentioned below.

Changes to the product

- Use of the internal intake space is retained. This enables the installation of the external fan directly next to surfaces, whereby a volume flow of about 80% can still be achieved. In addition, this enables very short installation times.
- In future, the terminal box will be flush with the rear edge (compare Annex A). The dimensions of the external fan units remain unchanged, which enables simple replacement of the current series (see Annex B). Especially for size 63 to 80, the advantage is a reduced overall length, e.g. for radially widened ducts.
- The squarish shape of the terminal box allows to turn the terminal box in all directions.
- The fan grills as well as the transition area on the outer edge of the fan flange have been optimised according to aerodynamic criteria, with improves noise emissions and yields higher efficiencies.
- Higher efficiency is achieved by the use of the new motor for Size 160, which can now also be used at single phase 60Hz (2-pole version). This enables a further reduction in the number of variants.
- For size 132 and 160, 2-pole variantes for 400/690V are available.
- The fan wheels for frame size 90 up to 112 are aerodynamically optimised und have a significantly improved efficiency. In connection with the new motor, e.g. size 100 has about 14% less power consumption, while the air power is increased by 22% (compared at 230V/50Hz).
- Size 63-80 have also a new motor, which has a substantially increased torque at single phase operation. Thus, the motor starts also at lower temperature safely. Additionally, the efficiency is improved. E.g. size 71 has about 12% less power consumption while the volume flow is similar (comapred at 230V/50Hz).
- Due to new motors, the electrical data have changed.
- A shorter physical length is guaranteed by the new plug connection version, as in future, the plug connector can be mounted at the position of the terminal box (Annex

A Figure 3). With the current series, the plug is installed on the b side bearing cover of the external fan unit.

With the introduction of the new fan units, the fan tubes for sizes 180 and 200 will be changed.

Due to a new production method, the contour will be changed slightly, however without impairing the current dimensions and technical parameters (siehe Annex C).

In future the tubes will be provided with longer fastening holes in order to facilitate installation, e.g. 6,6x8 mm will get 6,6x9 mm.

Annex A Visual comparison of IL- and ILI-series

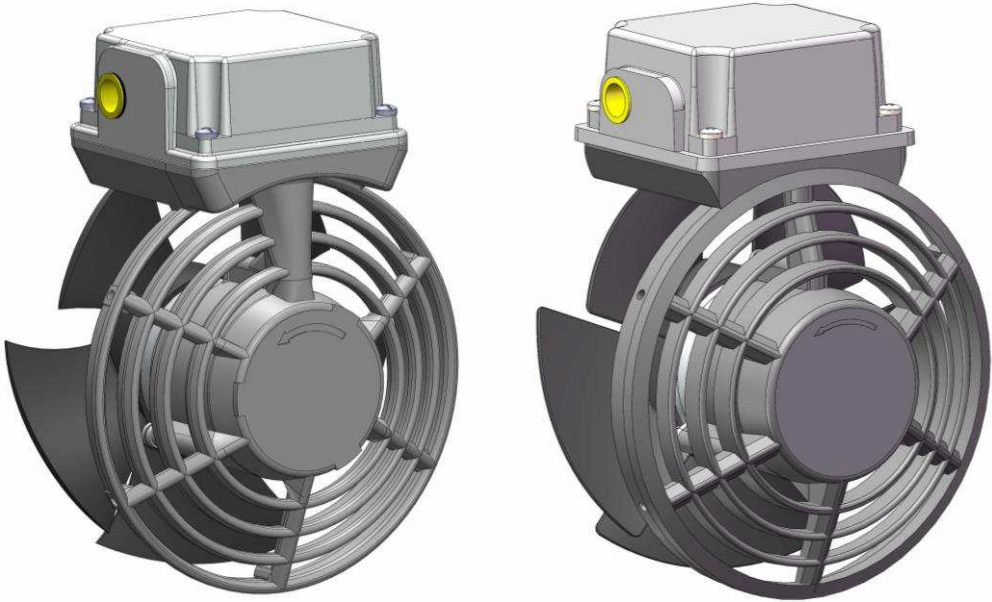


Figure 1: Comparison of frame size 90 ILI (left) to IL-series (right)

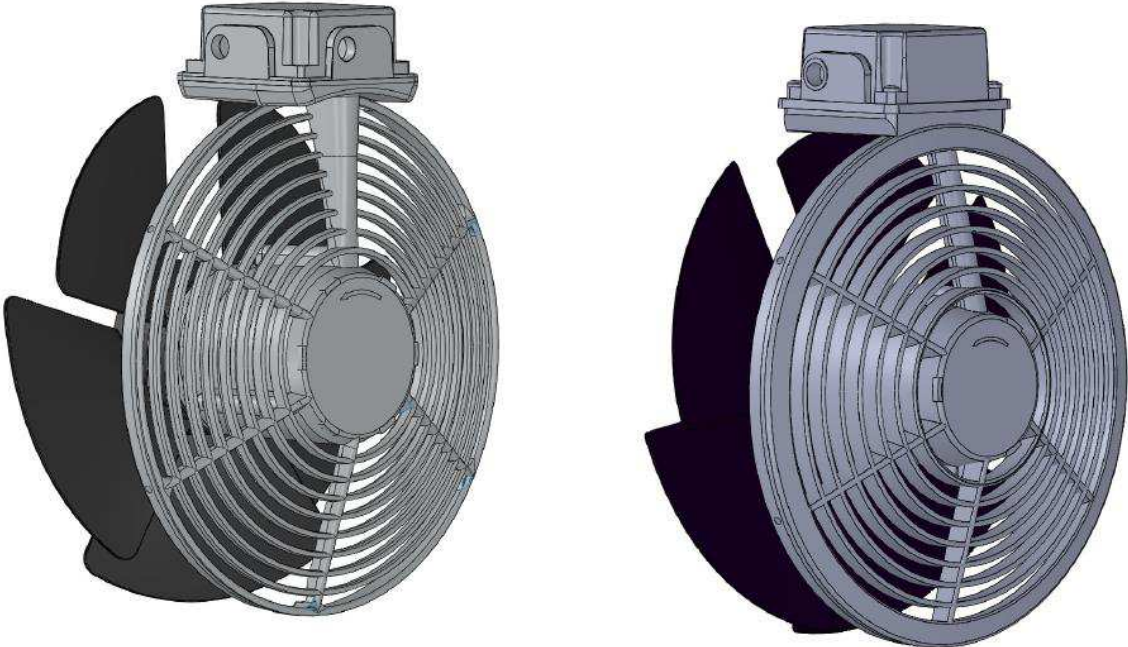


Figure 2: Comparison of frame size 160 ILI (left) to IL-series (right)

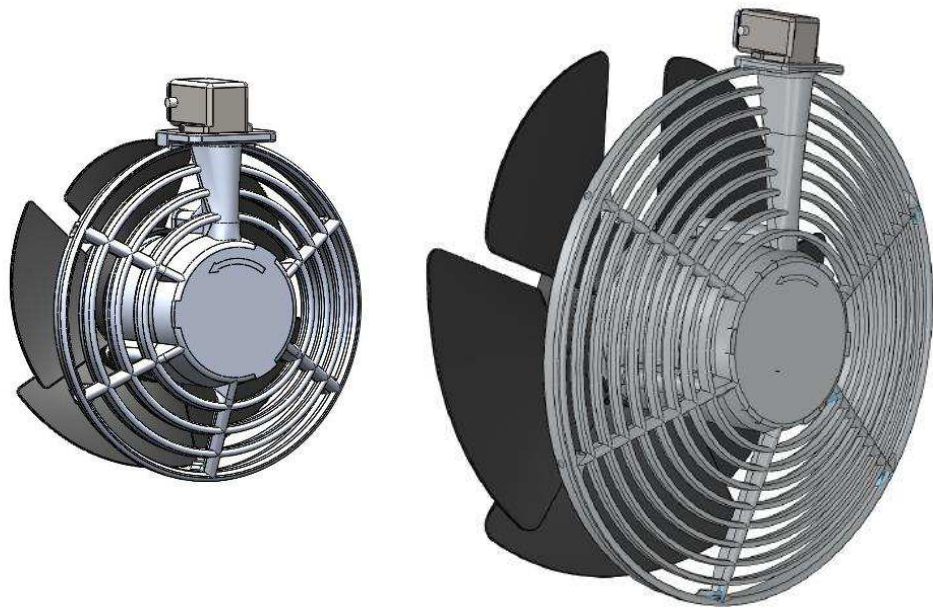
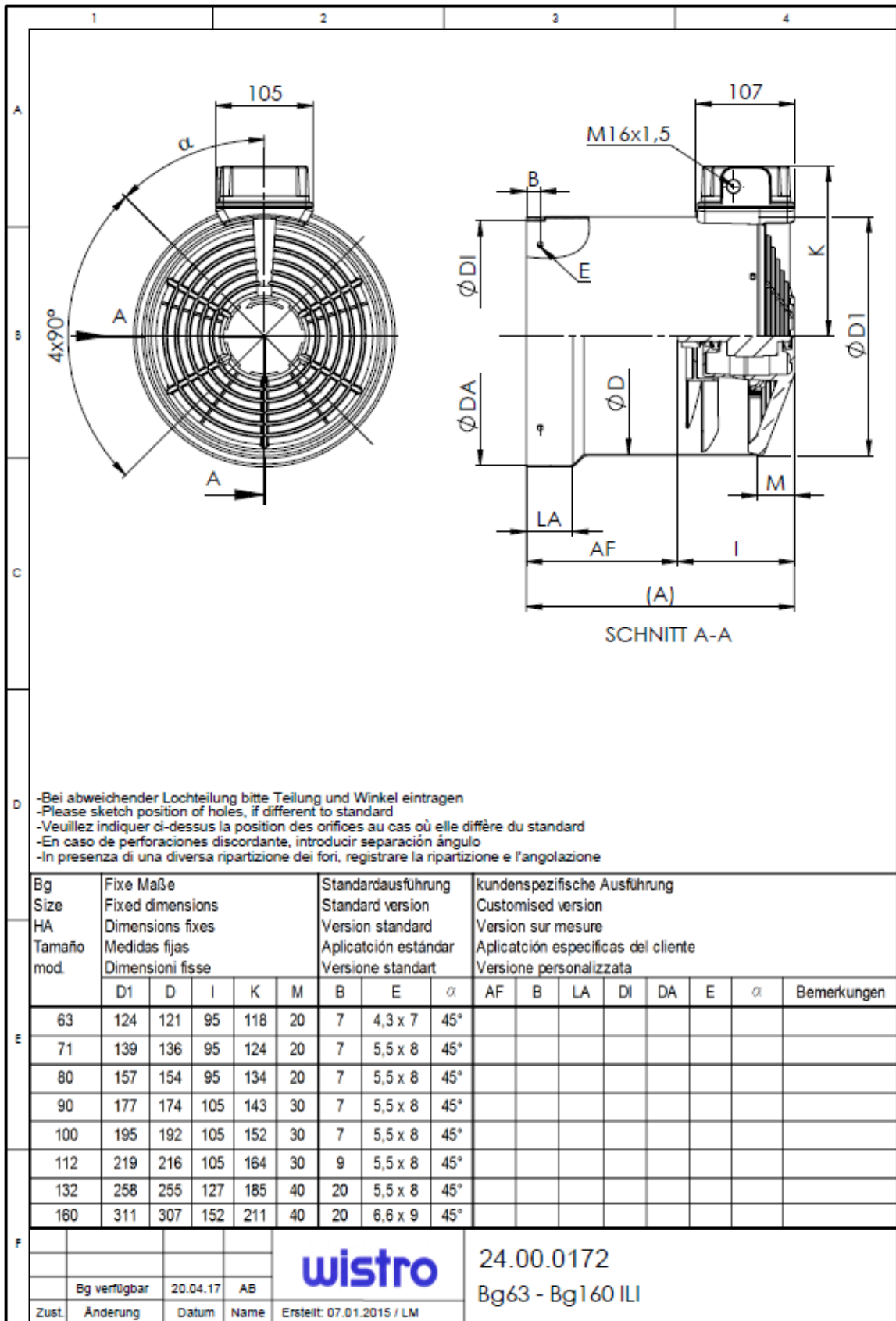


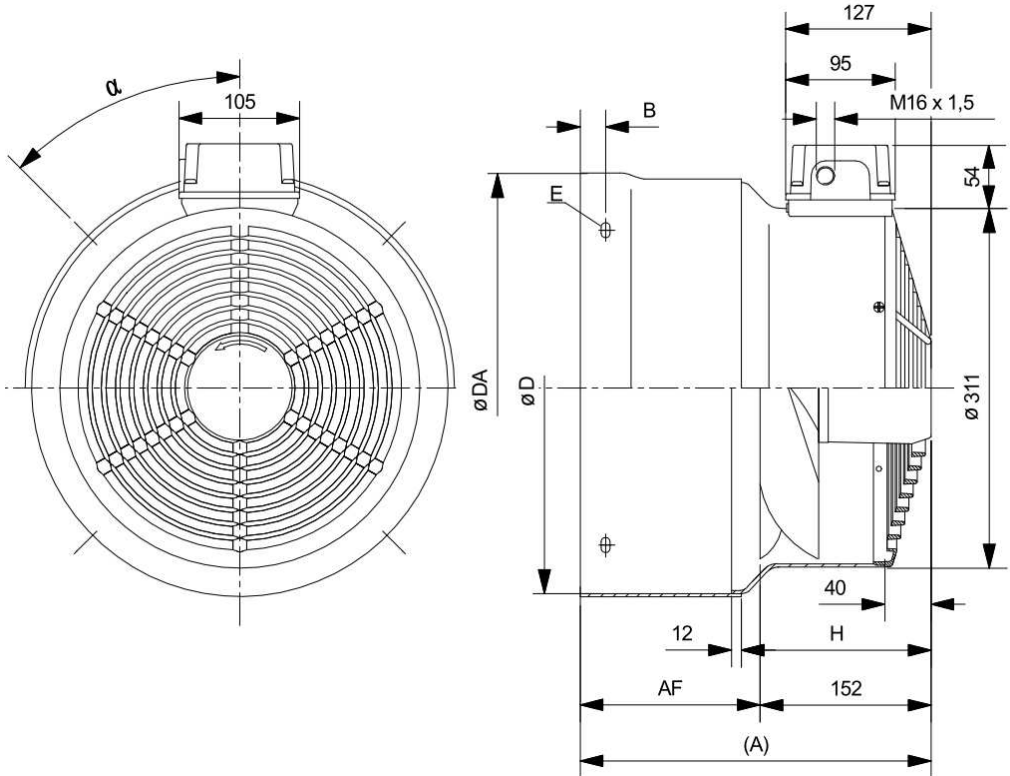
Figure 3: Plug connector version frame size 90 ILI and 160 ILI

Annex B Dimensions sheet ILI-series

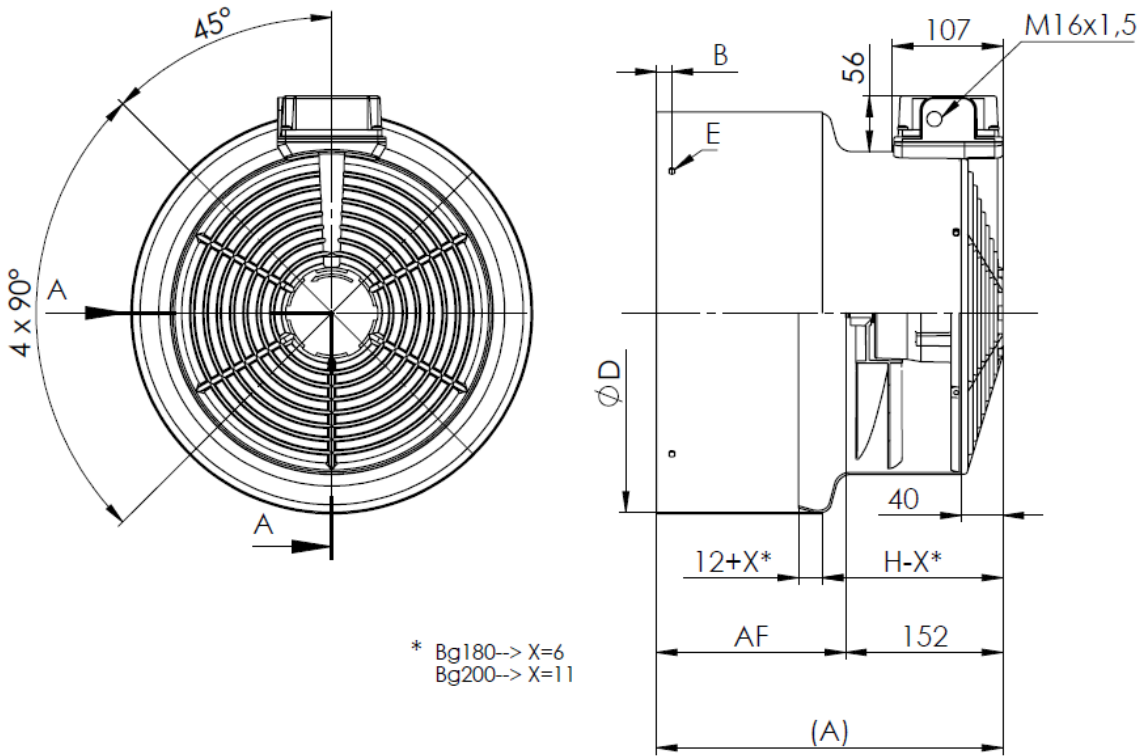


Annex C Comparison Bg180/200 IL- to ILI-series

Current version



New version



Annex D Range of operating voltage IL/ILI

Range of operating voltage, ILI-series

Three phase alternating current motor, bipolar 3~230V/400V

Betriebsart Mode Couplage Modo de funcionamiento Modalità operativa	Bg Frame size HA Tamaño mod.	Lüfterdurchmesser Blower diameter Diamètre des ventilateurs Diametro del ventilatore Diametro del ventilatore	Spannungsbereich Range of voltage Plage de tension Rango de tensiones Campo di tensione	Max. zulässiger Strom Max. permissible current Courant max. admissible Corrente massima permitida Corrente massima consentita	max. Leistungsaufnahme max. power input max. puissance absorbée Consumo máxima de energía Potenza massima assorbita
		(mm)	50Hz (V) 60Hz	50Hz (A) 60Hz	50Hz (W) 60Hz
1~ Δ	63	118	230-277 230-277	0,18 0,21	46 54
	71	132	230-277 230-277	0,18 0,21	48 56
	80	150	230-277 230-277	0,19 0,22	48 59
	90	169	220-277 220-277	0,29 0,23	59 61
	100	187	220-277 220-277	0,29 0,28	62 73
	112	210	220-277 220-277	0,27 0,36	64 88
	132	250	230-277 230-277	0,52 0,61	125 163
	160-200	300	230-277 230-277	1,05 1,52	246 390
3~Y	63	118	346-525 380-575	0,09 0,08	28 29
	71	132	346-525 380-575	0,09 0,07	29 28
	80	150	346-525 380-575	0,09 0,07	33 36
	90	169	346-525 380-575	0,22 0,18	78 71
	100	187	346-525 380-575	0,21 0,18	80 80
	112	210	346-525 380-575	0,20 0,17	87 93
	132	250	346-525 380-575	0,37 0,32	160 180
	160-200	300	346-525 380-575	0,74 0,62	314 391
3~ Δ	63	118	200-303 220-332	0,15 0,14	28 29
	71	132	200-303 220-332	0,15 0,13	29 28
	80	150	200-303 220-332	0,16 0,13	33 36
	90	169	200-303 220-332	0,39 0,32	78 71
	100	187	200-303 220-332	0,37 0,30	80 80
	112	210	200-303 220-332	0,35 0,29	87 93
	132	250	200-303 220-332	0,64 0,55	160 180
	160-200	300	200-303 220-332	1,28 1,08	314 391

with reference bearing shield

Range of operating voltage, IL-series

Three phase alternating current motor, bipolar 3~230V/400V

Betriebsart Mode Couplage Modo de funcionamiento Modalità operativa	Bg Frame size HA Tamaño mod.	Lüfterdurchmesser Blower diameter Diamètre des ventateurs Diametro del ventatore Diametro del ventatore	Spannungsbereich Range of voltage Plage de tension Rango de tensiones Campo di tensione		Max. zulässiger Strom Max. permissible current Courant max. admissible Corriente máxima permitida Corrente massima consentita	max. Leistungsaufnahme max. power input max. puissance absorbée Consumo máxima de energía Potenza massima assorbita		
		(mm)	50Hz (V)	60Hz	50Hz (A)	60Hz	50Hz (W)	60Hz
1~⊥(Δ)	63	118	230-277	230-277	0,11	0,12	27	32
	71	132	230-277	230-277	0,10	0,12	27	33
	80	150	230-277	230-277	0,11	0,14	29	37
	90	169	220-277	220-277	0,29	0,25	65	65
	100	187	220-277	220-277	0,28	0,30	66	75
	112	210	220-277	220-277	0,28	0,37	71	94
	132	250	230-277	230-277	0,40	0,57	98	149
	160-200	300	230-277	-----	0,97	-----	253	-----
3~Y	63	118	346-525	380-575	0,07	0,06	28	28
	71	132	346-525	380-575	0,06	0,06	31	29
	80	150	346-525	380-575	0,06	0,06	31	34
	90	169	346-525	380-575	0,22	0,19	91	77
	100	187	346-525	380-575	0,22	0,18	91	87
	112	210	346-525	380-575	0,20	0,18	97	103
	132	250	346-525	380-575	0,33	0,25	124	148
	160-200	300	346-525	380-575	0,5	0,56	247	360
3~Δ	63	118	200-303	220-332	0,12	0,10	28	28
	71	132	200-303	220-332	0,11	0,10	31	29
	80	150	200-303	220-332	0,11	0,10	31	34
	90	169	200-303	220-332	0,38	0,33	91	77
	100	187	200-303	220-332	0,37	0,31	91	87
	112	210	200-303	220-332	0,35	0,31	97	103
	132	250	200-303	220-332	0,58	0,44	124	148
	160-200	300	200-303	220-332	0,87	0,93	247	360

with reference bearing shield

Annex E Volume flow IL/ILI

Volume flow [m³/h], ILI-series

Bg	400V 50Hz	460V 60Hz	400V 50Hz	460V 60Hz	400V 50Hz	460V 60Hz
	3 ~ Y 2-pole	3 ~ Y 2-pole	3 ~ Y 4-pole	3 ~ Y 4-pole	3 ~ Δ 4-pole	3 ~ Δ 4-pole
63	54	69	/	/	/	/
71	78	99	/	/	/	/
80	128	151	/	/	/	/
90	216	258	/	/	/	/
100	278	328	/	/	/	/
112	355	418	/	/	/	/
132	550	650	290	340	/	/
160	980	1160	520	620	/	/
180	1200	1379	619	695	/	/
200	1324	1575	656	776	/	/

with reference bearing shield

Volume flow [m³/h], IL-series

Bg	400V 50Hz	460V 60Hz	400V 50Hz	460V 60Hz	400V 50Hz	460V 60Hz
	3 ~ Y 2-pole	3 ~ Y 2-pole	3 ~ Y 4-pole	3 ~ Y 4-pole	3 ~ Δ 4-pole	3 ~ Δ 4-pole
63	54	69	/	/	/	/
71	78	98	/	/	/	/
80	127	148	/	/	/	/
90	200	240	/	/	/	/
100	260	310	/	/	/	/
112	337	411	168	200	/	/
132	532	633	278	330	/	/
160	935	1068	507	607	/	/
180	1145	1270	604	680	/	/
200	1263	1450	640	760	/	/

with reference bearing shield

Annex F ERP-Efficiencies frame size 160 - 200 ILI

The ErP implementation ordinance (327/2011 of the EU dated 30 March 2011) defines specific instructions for the implementation of the ErP Directive in the field of fans. It specifies minimum efficiencies for fans with an electrical input power of 125 W to 500 kW. Unlike the standard IEC 60034-30-2008 which came into effect in June 2011 and which only specifies the minimum efficiency of motors (IE2/IE3), the ErP Directive considers the complete, operational system consisting of the motor and the fan. The second and final stage of the Ordinance comes into effect on 01.01.2015 and affects Size 160 (and therefore also Size 180 and Size 200) Size 160 already complies with the directive which will come into effect from 01.01.2015. Details can be found below.

Nominal data: Size 160 - 200 Type C62 2-2 IL

Phase	3~
Rated voltage	400V
Circuit	Y
Frequency	50Hz
Type of data recording	Free-blowing
Power consumption P_e	0.171 kW
Measurement category	A
Efficiency category	Static

Calculation of target efficiency from 1.01.2015:

$$\eta = 2.74 \cdot \ln(0.171) - 6.33 + 40$$

	Actual	Target 2013	Target 2015
Overall efficiency η_{es}	30.6 %	24.8 %	28.8 %
Efficiency class N	41.8	36	40