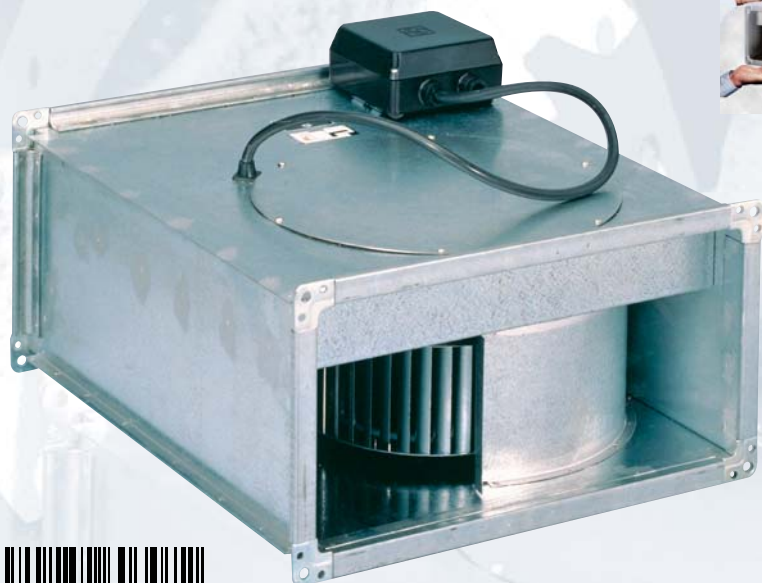




IN-LINE DUCT FAN

DIRECT-AIR ILB/ ILT, Rectangular duct fans



Range of in-line rectangular duct fan manufactured from **galvanised steel sheet** and provided with **an inspection cover that can be removed** to access the motor/impeller assembly without having to remove the complete fan casing from the ducting. All model incorporate direct-drive forward curved centrifugal impeller.

Available, depending upon the model, with single phase motors in 4, 6 or 8 poles.

Motors

All motors are **IP55, class F** insulation, with thermal protection.

Electrical supply:

Single phase 230V-50Hz.

Three phase 230/400V-50Hz.

(See characteristics chart).

Suitable for speed control using autotransformer.



APPLICATIONS



Easy to install



Standard rectangular flanges to ease the installation

IP55 remote terminal box



To ease installation and connection to external controls

Inspection cover



To facilitate maintenance

Complete solution for ventilation systems



In-line Direct-Air fan mounted together with a bag filter IFL, an acoustic attenuator IAA, a flexible connector IAE and an electrical heater battery IBE

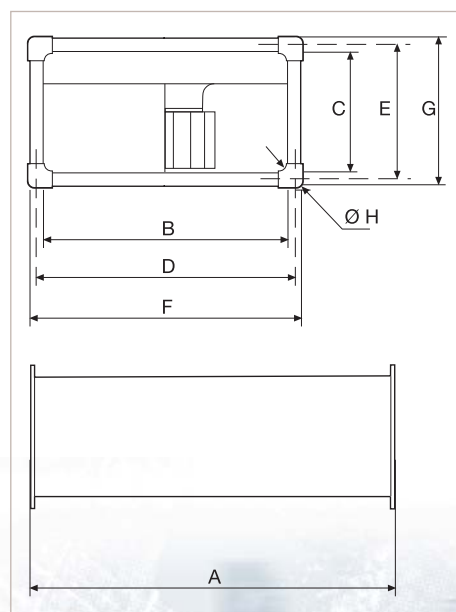
■ Technical characteristics

Before installation check that the product electrical characteristics listed on the data plate label (Voltage, power, frequency etc) match those of the intended electrical supply.

Model	Nominal ducting dimensions	Speed (r.p.m.)	Maximum power abs. (W)	Max. abs. current (A)		Max. air volume (m ³ /h)	Sound pressure level* (dB(A))	Weight (kg)
				at 230 V	at 400 V			
4 POLES SINGLE PHASE								
ILB/4-200	400 x 200	1240	240	1,15	–	1090	57	15
ILB/4-225	500 x 250	1130	520	2,45	–	1670	56	20
ILB/4-250	500 x 300	1130	950	4,4	–	2350	60	25
6 POLES SINGLE PHASE								
ILB/6-225	500 x 250	800	200	1	–	1080	48	20
ILB/6-250	500 x 300	800	310	1,5	–	1500	49	25
ILB/6-285	600 x 300	825	660	3,2	–	2650	55	32
ILB/6-315	600 x 350	810	710	3,4	–	2780	57	40
ILB/6-355	700 x 400	800	1300	6,3	–	4070	60	60
4 POLES THREE PHASE								
ILT/4-200	400 x 200	1270	260	0,9	0,52	1150	59	15
ILT/4-225	500 x 250	1160	500	1,7	0,98	1700	58	20
ILT/4-250	500 x 300	1170	930	3	1,77	2650	62	25
ILT/4-285	600 x 300	1070	1260	4,15	2,4	3100	61	32
ILT/4-315	600 x 350	1390	2440	8	4,6	4160	68	42
ILT/4-355	700 x 400	1330	5690		9,1	7760	70	65
ILT/4-400	800 x 500	1350	6350		11,4	7765	69	80
ILT/4-450	1000 x 500	1360	8360		14,6	8940	66	100
6 POLES THREE PHASE								
ILT/6-225	500 x 250	840	220	1	0,57	1185	50	20
ILT/6-250	500 x 300	800	280	1	0,57	1630	51	25
ILT/6-285	600 x 300	840	670	2,3	1,33	2700	56	32
ILT/6-315	600 x 350	900	710	2,5	1,44	2820	57	40
ILT/6-355	700 x 400	875	1380	5,2	3	4200	61	65
ILT/6-400	800 x 500	950	3000	11	6,37	7400	66	80
ILT/6-450	1000 x 500	900	5350	17,3	10	10850	67	100
8 POLES THREE PHASE								
ILT/8-355	700 x 400	660	614	2,31	1,33	3030	52	65
ILT/8-400	800 x 500	700	1340	6,82	3,94	5350	59	80
ILT/8-450	1000 x 500	675	2380	7,71	4,45	8000	61	100

*Measured at 1m at free field, with ducted inlet and outlet.

■ Dimensions (mm)



Model	A	B	C	D	E	F	G	Ø H
200	505	400	198	440	220	440	240	9
225	535	500	248	520	270	540	290	9
250	565	500	298	520	320	540	340	9
285	645	600	298	620	320	640	340	9
315	725	600	348	620	370	640	390	9
355	785	700	398	720	420	740	440	9
400	885	800	498	820	520	840	540	9
450	985	1000	498	10200	520	10400	540	9

Acoustic characteristics

The sound power spectrum in dB (A), at the fan inlet, discharge and radiated at 3 working points of the performance curve (A: maximum volume). The sound levels shown on the curves are radiated sound pressure levels, measured at 1 m, in free field conditions. To calculate the sound power level spectrum (L_wA) add to the sound pressure levels on the curves the corrections on the table below for every frequency band (Hz):

Model ILB/4-200		63	125	250	500	1000	2000	4000	8000
Inlet	A	50	61	65	70	71	67	62	54
	B	50	61	65	70	71	67	62	54
	C	46	57	61	66	67	63	58	50
	D	41	52	56	61	62	58	53	45
Discharge	A	46	61	64	70	76	72	70	63
	B	46	61	64	70	76	72	70	63
	C	43	58	61	67	73	69	67	60
	D	39	54	57	63	69	65	63	56
Radiated	A	50	54	56	58	63	63	58	48
	B	49	53	55	57	62	62	57	47
	C	46	50	52	54	59	59	54	44
	D	41	45	47	49	54	54	49	39

Model ILT/4-200		63	125	250	500	1000	2000	4000	8000
Inlet	A	52	63	67	72	73	69	64	56
	B	50	61	65	70	71	67	62	54
	C	46	57	61	66	67	63	58	50
	D	41	52	56	61	62	58	53	45
Discharge	A	48	63	66	72	78	74	72	65
	B	46	61	64	70	76	72	70	63
	C	43	58	61	67	73	69	67	60
	D	39	54	57	63	69	65	63	56
Radiated	A	52	56	58	60	65	65	60	50
	B	50	54	56	58	63	63	58	48
	C	46	50	52	54	59	59	54	44
	D	41	45	47	49	54	54	49	39

Model ILB/4-225		63	125	250	500	1000	2000	4000	8000
Inlet	A	51	63	66	71	72	69	64	55
	B	52	64	67	72	73	70	65	56
	C	49	61	64	69	70	67	62	53
	D	45	57	60	65	66	63	58	49
Discharge	A	47	62	65	71	76	73	71	64
	B	48	63	66	72	77	74	72	65
	C	46	61	64	70	75	72	70	63
	D	42	57	60	66	71	68	66	59
Radiated	A	51	56	57	59	62	62	57	47
	B	52	57	58	60	63	63	58	48
	C	49	54	55	57	60	60	55	45
	D	44	49	50	52	55	55	50	40

Model ILT/4-225		63	125	250	500	1000	2000	4000	8000
Inlet	A	52	64	67	72	73	70	65	56
	B	51	63	66	71	72	69	64	55
	C	48	60	63	68	69	66	61	52
	D	44	56	59	64	65	62	57	48
Discharge	A	48	63	66	72	77	74	72	65
	B	48	63	66	72	77	74	72	65
	C	45	60	63	69	74	71	69	62
	D	42	57	60	66	71	68	66	59
Radiated	A	52	57	58	60	63	63	58	48
	B	51	56	57	59	62	62	57	47
	C	48	53	54	56	59	59	54	44
	D	44	49	50	52	55	55	50	40

Model ILB/4-250		63	125	250	500	1000	2000	4000	8000
Inlet	A	55	67	69	74	75	74	69	60
	B	55	67	69	74	75	74	69	60
	C	53	65	67	72	73	72	67	58
	D	49	61	63	68	69	68	63	54
Discharge	A	51	66	68	76	79	78	75	68
	B	52	67	69	77	80	79	76	69
	C	50	65	67	75	78	77	74	67
	D	46	61	63	71	74	73	70	63
Radiated	A	56	61	61	64	65	64	60	51
	B	56	61	61	64	65	64	60	51
	C	54	59	59	62	63	62	58	49
	D	49	54	54	57	58	57	53	44

Model ILT/4-250		63	125	250	500	1000	2000	4000	8000
Inlet	A	58	70	72	77	78	77	72	63
	B	57	69	71	76	77	76	71	62
	C	54	66	68	73	74	73	68	59
	D	49	61	63	68	69	68	63	54
Discharge	A	54	69	71	79	82	81	78	71
	B	53	68	70	78	81	80	77	70
	C	51	66	68	76	79	78	75	68
	D	47	62	64	72	75	74	71	64
Radiated	A	58	63	63	66	67	66	62	53
	B	57	62	62	65	66	65	61	52
	C	54	59	59	62	63	62	58	49
	D	49	54	54	57	58	57	53	44

Model ILT/4-285		63	125	250	500	1000	2000	4000	8000
Inlet	A	58	70	72	76	77	77	73	68
	B	59	71	73	77	78	78	74	69
	C	58	70	72	76	77	77	73	68
	D	54	66	68	72	73	73	69	64
Discharge	A	54	69	71	80	82	81	78	71
	B	56	71	73	82	84	83	80	73
	C	55	70	72	81	83	82	79	72
	D	51	66	68	77	79	78	75	68
Radiated	A	58	65	65	66	62	62	60	57
	B	59	66	66	67	63	63	61	58
	C	58	65	65	66	62	62	60	57
	D	53	60	60	61	57	57	55	52

Model ILT/4-315		63	125	250	500	1000	2000	4000	8000
Inlet	A	65	77	79	83	84	84	80	75
	B	63	75	77	81	82	82	78	73
	C	60	72	74	78	79	79	75	70
	D	54	66	68	72	73	73	69	64
Discharge	A	61	76	78	87	89	88	85	78
	B	60	75	77	86	88	87	84	77
	C	57	72	74	83	85	84	81	74
	D	52	67	69	78	80	79	76	69
Radiated	A	65	72	72	73	69	69	67	64
	B	63	70	70	71	67	67	65	62
	C	60	67	67	68	64	64	62	59
	D	55	62	62	63	59	59	57	54

Model ILT/4-355		63	125	250	500	1000	2000	4000	8000
Inlet	A	66	78	83	86	89	90	87	83
	B	65	77	80	82	85	85	83	79
	C	64	77	75	78	81	80	78	73
	D	65	77	79	81	84	84	82	78
Discharge	A	71	79	85	90	94	93	90	85
	B	67	78	81	86	91	89	86	81
	C	62	75	75	81	86	83	81	74
	D	66	77	80	85	90	88	85	80
Radiated	A	66	71	71	72	74	76	73	68
	B	65	70	68	68	70	71	69	64
	C	64	70	63	64	66	66	64	58
	D	65	70	67	67	69	70	68	63

Model ILT/4-400		63	125	250	500	1000	2000	4000	8000
Inlet	A	68	78	80	82	89	88	85	80
	B	67	77	77	79	86	84	81	76
	C	64	74	75	77	84	82	79	74
	D	65	77	79	81	84	84	82	78
Discharge	A	78	82	85	89	93	91	87	82
	B	72	78	80	85	90	87	83	77
	C	71	76	78	83	87	85	81	75
	D	63	68	68	71	74	73	70	70
Radiated	A	62	67	65	68	71	69	66	66
	B	62	67	65	68	71	69	66	66
	C	58	63	62	65	68	67	64	64

Model ILT/4-450		63	125	250	500	1000	2000	4000	8000
Inlet	A	78	77	80	81	88	86	82	77
	B	78	77	78	80	87	85	81	76
Discharge	A	77	80	84	89	94	93	87	81
	B	76	79	83	88	93	92	86	80
Radiated	A	70	68	67	62	71	69	64	60
	B	70	68	65	61	70	68	63	59



Acoustic characteristics

The sound power spectrum in dB (A), at the fan inlet, discharge and radiated at 3 working points of the performance curve (A: maximum volume). The sound levels shown on the curves are radiated sound pressure levels, measured at 1 m, in free field conditions. To calculate the sound power level spectrum (LwA) add to the sound pressure levels on the curves the corrections on the table below for every frequency band (Hz):

Model ILB/6-225		63	125	250	500	1000	2000	4000	8000
Inlet	A	46	54	57	62	63	60	55	43
	B	47	55	58	63	64	61	56	44
	C	44	52	55	60	61	58	53	41
	D	39	47	50	55	56	53	48	36
Discharge	A	40	53	56	62	67	64	62	53
	B	41	54	57	63	68	65	63	54
	C	38	51	54	60	65	62	60	51
	D	34	47	50	56	61	58	56	47
Radiated	A	46	47	48	50	53	53	48	35
	B	46	47	48	50	53	53	48	35
	C	43	44	45	47	50	50	45	32
	D	39	40	41	43	46	46	41	28

Model ILT/6-225		63	125	250	500	1000	2000	4000	8000
Inlet	A	48	56	59	64	65	62	57	45
	B	46	54	57	62	63	60	55	43
	C	44	52	55	60	61	58	53	41
	D	39	47	50	55	56	53	48	36
Discharge	A	41	54	57	63	68	65	63	54
	B	40	53	56	62	67	64	62	53
	C	38	51	54	60	65	62	60	51
	D	34	47	50	56	61	58	56	47
Radiated	A	48	49	50	52	55	55	50	37
	B	46	47	48	50	53	53	48	35
	C	43	44	45	47	50	50	45	32
	D	39	40	41	43	46	46	41	28

Model ILB/6-250		63	125	250	500	1000	2000	4000	8000
Inlet	A	49	57	59	64	65	64	59	47
	B	50	58	60	65	66	65	60	48
	C	47	55	57	62	63	62	57	45
	D	43	51	53	58	59	58	53	41
Discharge	A	43	56	58	66	69	68	65	56
	B	44	57	59	67	70	69	66	57
	C	42	55	57	65	68	67	64	55
	D	38	51	53	61	64	63	60	51
Radiated	A	49	50	50	53	53	53	49	37
	B	50	51	51	54	54	54	50	38
	C	48	49	49	52	52	52	48	36
	D	43	44	44	47	47	47	43	31

Model ILT/6-250		63	125	250	500	1000	2000	4000	8000
Inlet	A	51	59	61	66	67	66	61	49
	B	50	58	60	65	66	65	60	48
	C	47	55	57	62	63	62	57	45
	D	43	51	53	58	59	58	53	41
Discharge	A	44	57	59	67	70	69	66	57
	B	44	57	59	67	70	69	66	57
	C	42	55	57	65	68	67	64	55
	D	38	51	53	61	64	63	60	51
Radiated	A	51	52	52	55	55	55	51	39
	B	50	51	51	54	54	54	50	38
	C	48	49	49	52	52	52	48	36
	D	43	44	44	47	47	47	43	31

Model ILB/6-285		63	125	250	500	1000	2000	4000	8000
Inlet	A	54	64	66	70	71	71	67	60
	B	54	64	66	70	71	71	67	60
	C	51	61	63	67	68	68	64	57
	D	46	56	58	62	63	63	59	52
Discharge	A	50	63	65	74	76	75	72	63
	B	50	63	65	74	76	75	72	63
	C	47	60	62	71	73	72	69	60
	D	43	56	58	67	69	68	65	56
Radiated	A	54	58	59	60	56	56	54	49
	B	54	58	59	60	56	56	54	49
	C	51	55	56	57	53	53	51	46
	D	46	50	51	52	48	48	46	41

Model ILT/6-285		63	125	250	500	1000	2000	4000	8000
Inlet	A	55	65	67	71	72	72	68	61
	B	54	64	66	70	71	71	67	60
	C	51	61	63	67	68	68	64	57
	D	45	55	57	61	62	62	58	51
Discharge	A	51	64	66	75	77	76	73	64
	B	51	64	66	75	77	76	73	64
	C	47	60	62	71	73	72	69	60
	D	43	56	58	67	69	68	65	56
Radiated	A	55	59	60	61	57	57	55	50
	B	54	58	59	60	56	56	54	49
	C	51	55	56	57	53	53	51	46
	D	46	50	51	52	48	48	46	41

Model ILB/6-315		63	125	250	500	1000	2000	4000	8000
Inlet	A	56	66	68	72	73	73	69	62
	B	55	65	67	71	72	72	68	61
	C	52	62	64	68	69	69	65	58
	D	52	62	64	68	69	69	65	58
Discharge	A	52	65	67	76	78	77	74	65
	B	51	64	66	75	77	76	73	64
	C	48	61	63	72	74	73	70	61
	D	44	57	59	68	70	69	66	57
Radiated	A	56	60	61	62	58	58	56	51
	B	55	59	60	61	57	57	55	50
	C	52	56	57	58	54	54	52	47
	D	47	51	52	53	49	49	47	42

Model ILT/6-315		63	125	250	500	1000	2000	4000	8000
Inlet	A	56	66	68	72	73	73	69	62
	B	55	65	67	71	72	72	68	61
	C	51	61	63	67	68	68	64	57
	D	46	56	58	62	63	63	59	52
Discharge	A	52	65	67	76	78	77	74	65
	B	51	64	66	75	77	76	73	64
	C	48	61	63	72	74	73	70	61
	D	44	57	59	68	70	69	66	57
Radiated	A	56	60	61	62	58	58	56	51
	B	55	59	60	61	57	57	55	50
	C	52	56	57	58	54	54	52	47
	D	47	51	52	53	49	49	47	42

Model ILB/6-355		63	125	250	500	1000	2000	4000	8000
Inlet	A	60	69	72	76	77	77	73	67
	B	59	68	71	75	76	76	72	66
	C	56	65	68	72	73	73	69	63
	D	50	59	62	66	67	67	63	57
Discharge	A	58	70	73	81	83	82	79	71
	B	57	69	72	80	82	81	78	70
	C	54	66	69	77	79	78	75	67
	D	49	61	64	72	74	73	70	62
Radiated	A	58	63	65	64	61	60	58	55
	B	57	62	64	63	60	59	57	54
	C	54	59	61	60	57	56	54	51
	D	48	53	55	54	51	50	48	45

Model ILT/6-355		63	125	250	500	1000	2000	4000	8000
Inlet	A	61	70	73	77	78	78	74	68
	B	59	68	71	75	76	76	72	66
	C	56	65	68	72	73	73	69	63
	D	50	59	62	66	67	67	63	57
Discharge	A	58	70	73	81	83	82	79	71
	B	57	69	72	80	82	81	78	70
	C	54	66	69	77	79	78	75	67
	D	49	61	64	72	74	73	70	62
Radiated	A	59	64	66	65	62	61	59	56
	B	57	62	64	63	60	59	57	54
	C	54	59	61	60	57	56	54	51
	D	48	53	55	54	51	50	48	45



Acoustic characteristics

The sound power spectrum in dB (A), at the fan inlet, discharge and radiated at 3 working points of the performance curve (A: maximum volume). The sound levels shown on the curves are radiated sound pressure levels, measured at 1 m, in free field conditions. To calculate the sound power level spectrum (L_wA) add to the sound pressure levels on the curves the corrections on the table below for every frequency band (Hz):

Model ILT/6-400		63	125	250	500	1000	2000	4000	8000
Inlet	A	70	75	79	83	86	85	81	75
	B	68	73	77	81	84	83	79	73
	C	64	69	73	77	80	79	75	69
	D	58	63	67	71	74	73	69	63
Discharge	A	69	76	81	88	90	89	85	77
	B	68	75	80	87	89	88	84	76
	C	64	71	76	83	85	84	80	72
	D	59	66	71	78	80	79	75	67
Radiated	A	66	68	70	71	69	67	64	62
	B	64	66	68	69	67	65	62	60
	C	64	66	68	69	67	65	62	60
	D	54	56	58	59	57	55	52	50

Model ILT/6-450		63	125	250	500	1000	2000	4000	8000
Inlet	A	74	76	81	85	88	87	83	77
	B	73	75	80	84	87	86	82	76
	C	70	72	77	81	84	83	79	73
	D	64	66	71	75	78	77	73	67
Discharge	A	75	79	85	91	93	92	87	80
	B	74	78	84	90	92	91	86	79
	C	71	75	81	87	89	88	83	76
	D	66	70	76	82	84	83	78	71
Radiated	A	68	69	72	73	70	67	65	63
	B	67	68	71	72	69	66	64	62
	C	64	65	68	69	66	63	61	59
	D	58	59	62	63	60	57	55	53

Model ILT/8-355		63	125	250	500	1000	2000	4000	8000
Inlet	A	54	61	64	68	69	69	65	56
	B	53	60	63	67	68	68	64	55
	C	50	57	60	64	65	65	61	52
	D	45	52	55	59	60	60	56	47
Discharge	A	50	61	64	72	74	73	70	60
	B	50	61	64	72	74	73	70	60
	C	47	58	61	69	71	70	67	57
	D	42	53	56	64	66	65	62	52
Radiated	A	52	54	57	56	53	52	50	44
	B	51	53	56	55	52	51	49	43
	C	48	50	53	52	49	48	46	40
	D	43	45	48	47	44	43	41	35

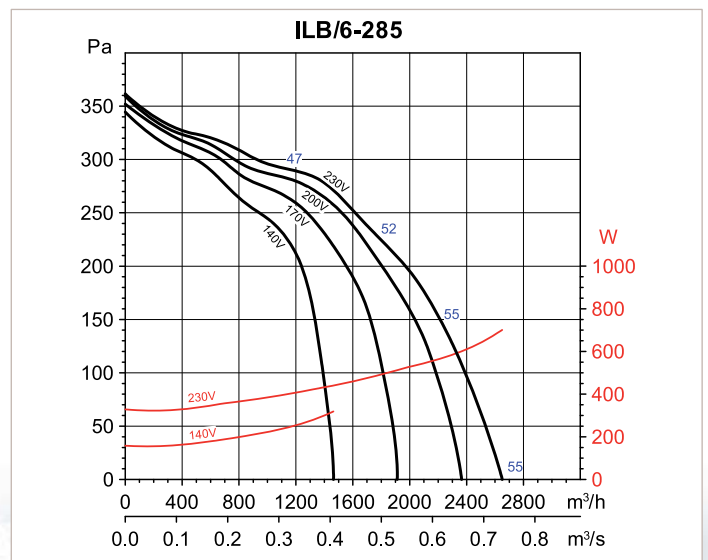
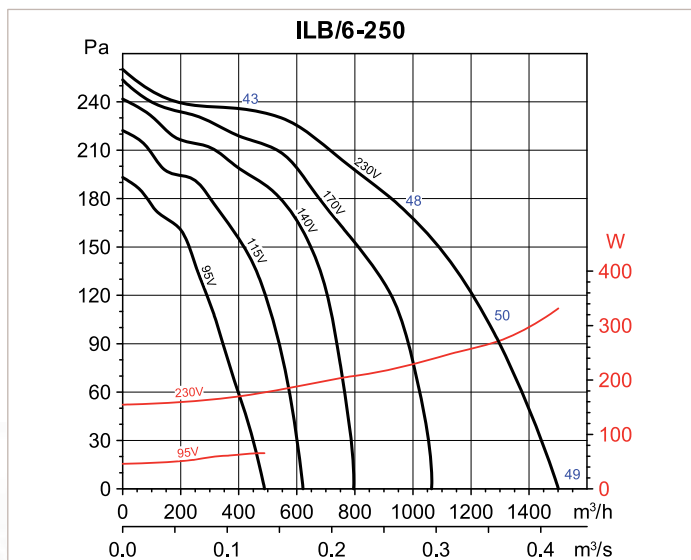
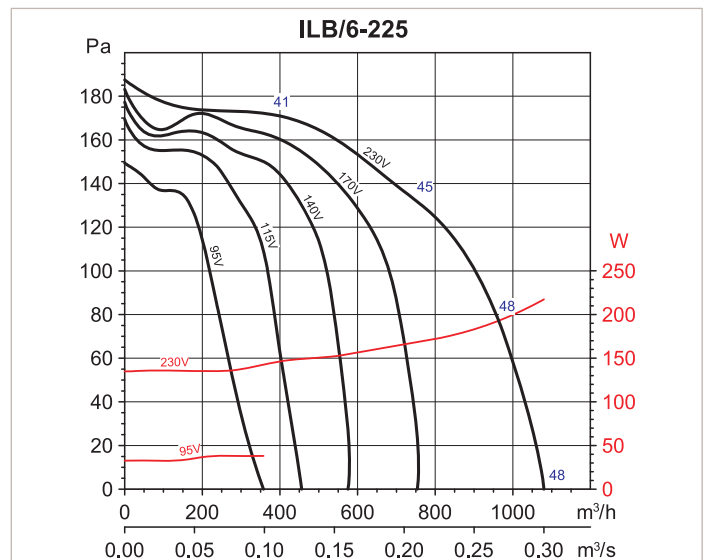
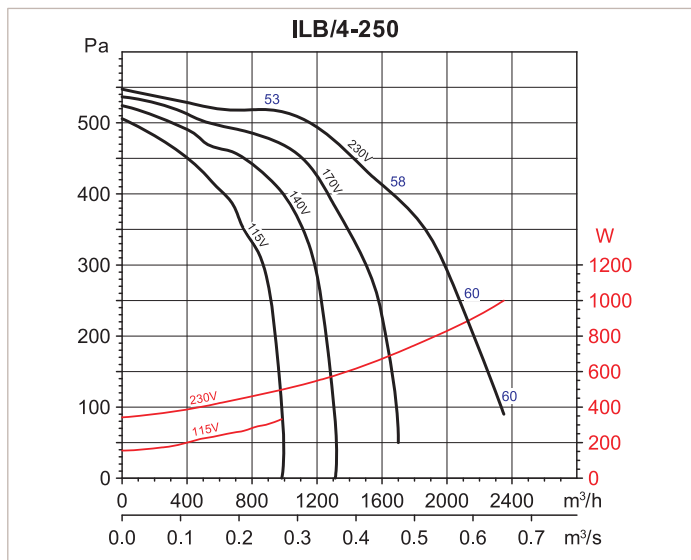
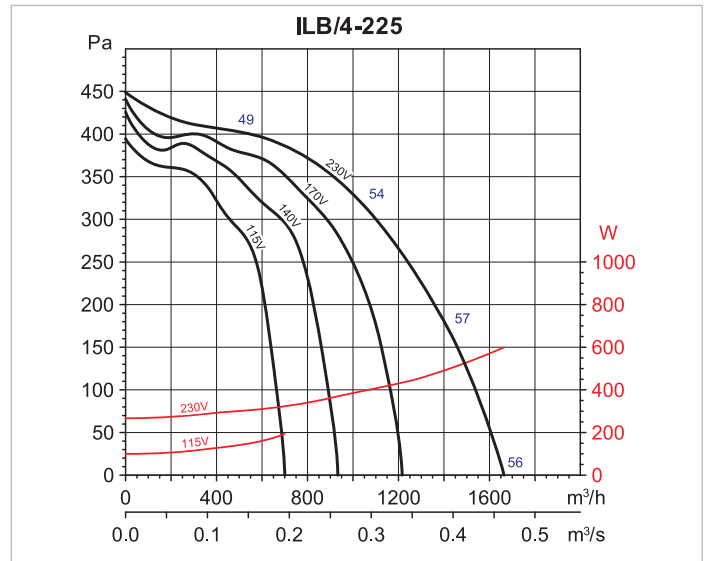
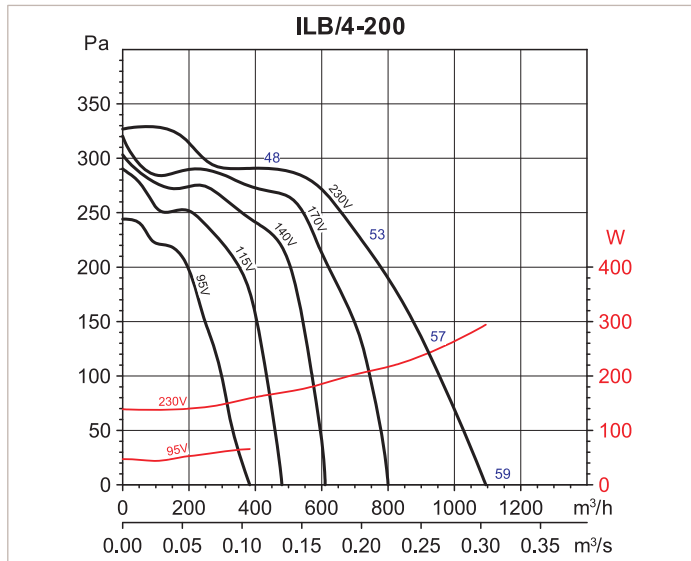
Model ILT/8-400		63	125	250	500	1000	2000	4000	8000
Inlet	A	64	67	71	75	78	77	73	64
	B	62	65	69	73	76	75	71	62
	C	50	57	60	64	65	65	61	52
	D	53	56	60	64	67	66	62	53
Discharge	A	63	69	74	81	83	82	78	69
	B	61	67	72	79	81	80	76	67
	C	58	64	69	76	78	77	73	64
	D	52	58	63	70	72	71	67	58
Radiated	A	61	61	63	64	62	60	57	52
	B	59	59	61	62	60	58	55	50
	C	55	55	57	58	56	54	51	46
	D	49	49	51	52	50	48	45	40

Model ILT/8-450		63	125	250	500	1000	2000	4000	8000
Inlet	A	70	71	75	79	82	81	77	68
	B	68	69	73	77	80	79	75	66
	C	65	66	70	74	77	76	72	63
	D	59	60	64	68	71	70	66	57
Discharge	A	69	72	78	84	86	85	80	72
	B	69	72	78	84	86	85	80	72
	C	65	68	74	80	82	81	76	68
	D	59	62	68	74	76	75	70	62
Radiated	A	64	64	66	66	64	61	59	54
	B	63	63	65	65	63	60	58	53
	C	59	59	61	61	59	56	54	49
	D	53	53	55	55	53	50	48	43



■ Performance curves

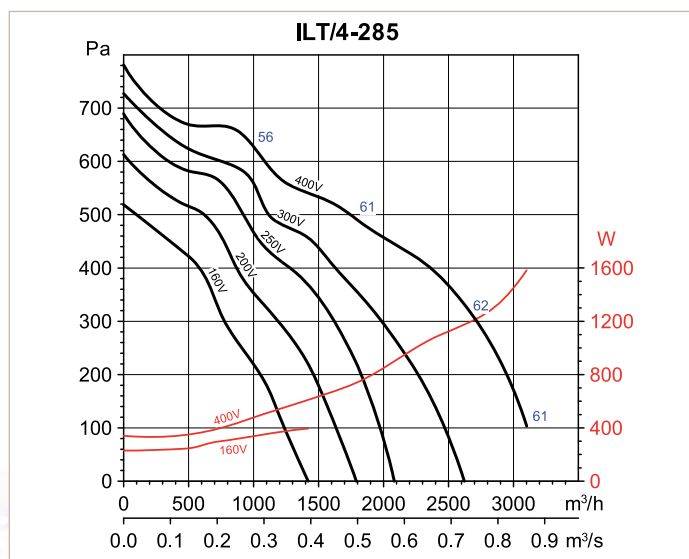
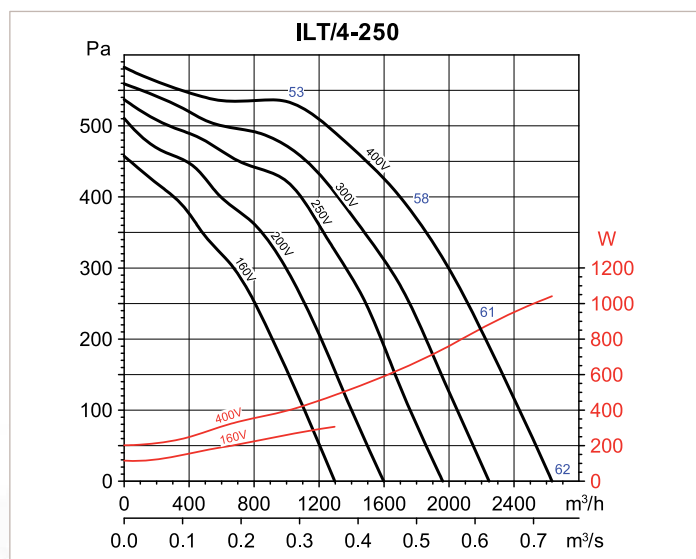
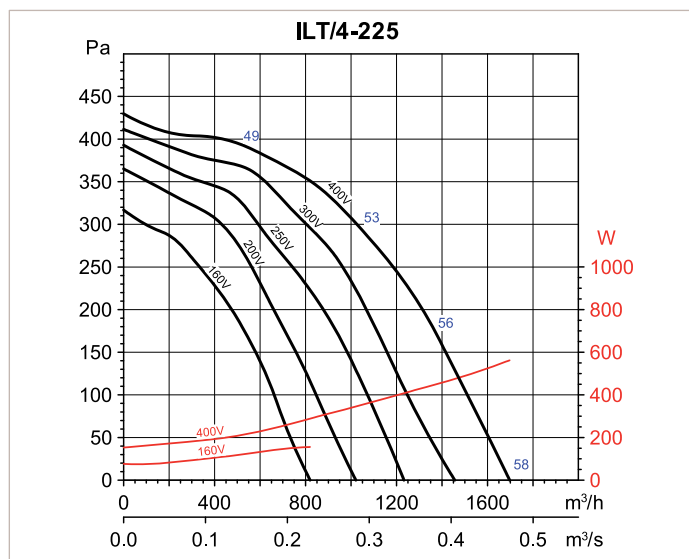
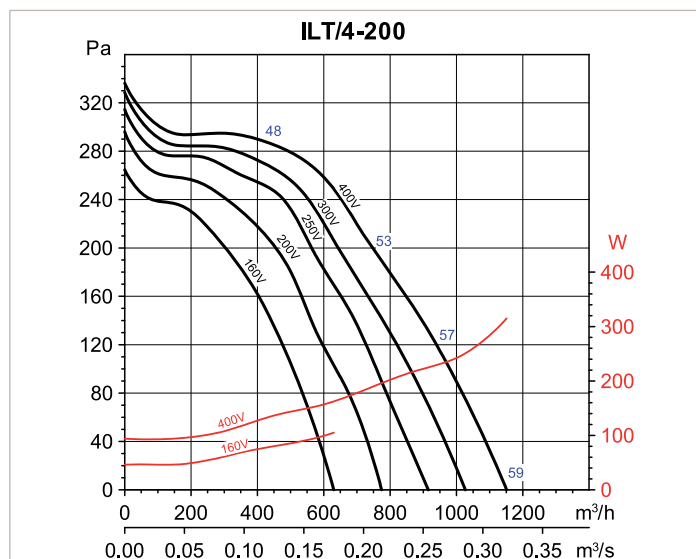
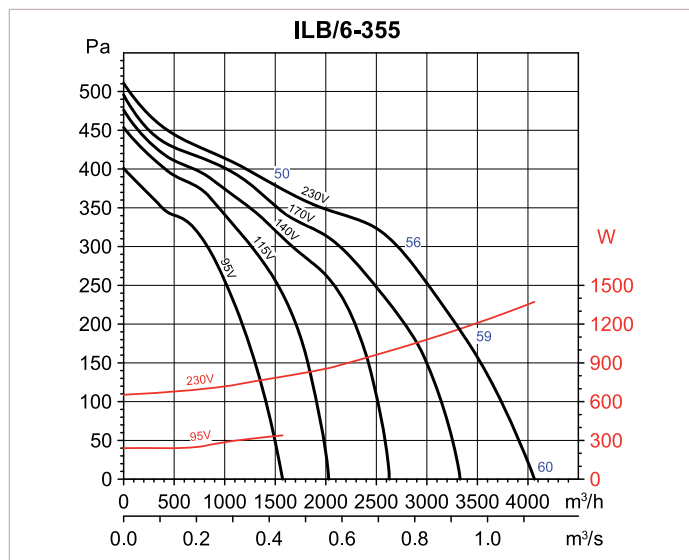
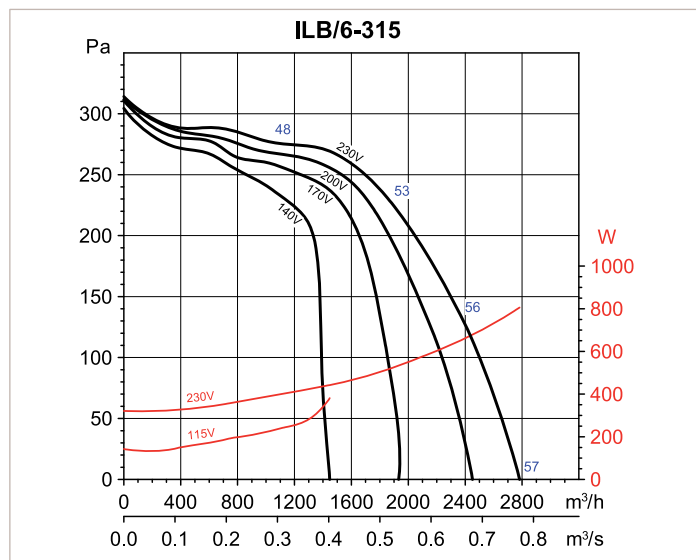
- Q = Air volume in, m³/hr and m³/s.
- Pe = Static pressure in mmWG and Pa.
- Dry air at 20°C and 760 mmHg.
- Air flow data in accordance with the following standards: UNE 100-212-89, BS 848, Part 1; AMCA 210-85 and ASHRAE 51-1985.



The curves shown represent different performances obtained using an RMB-RMT auto-transformer speed control.

Performance curves

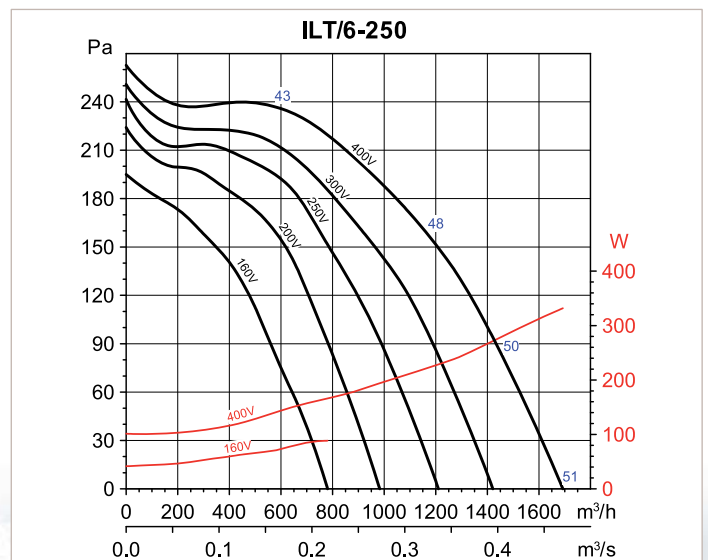
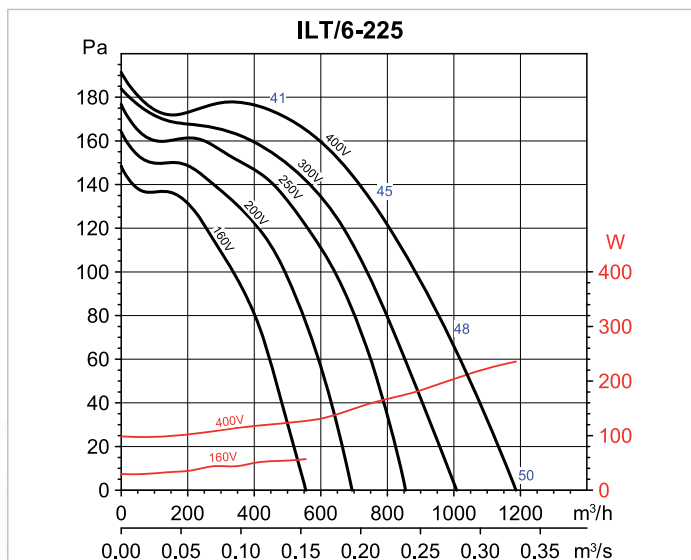
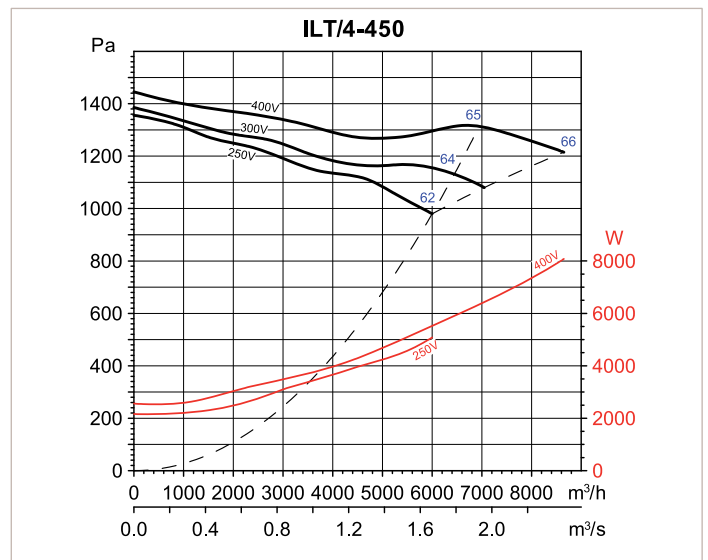
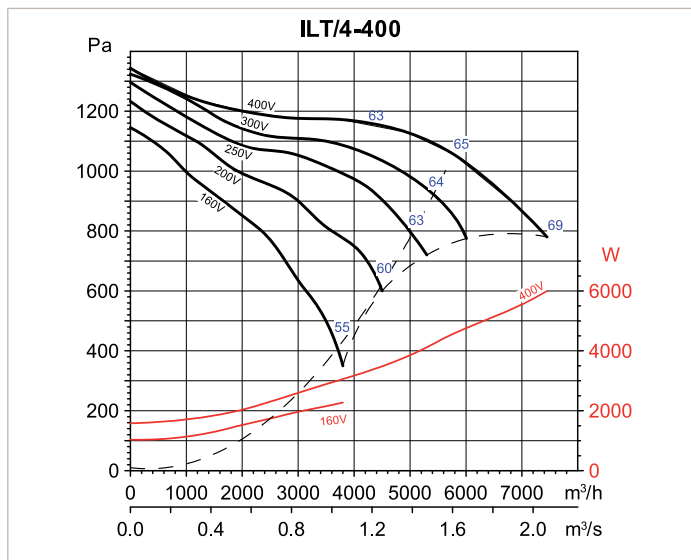
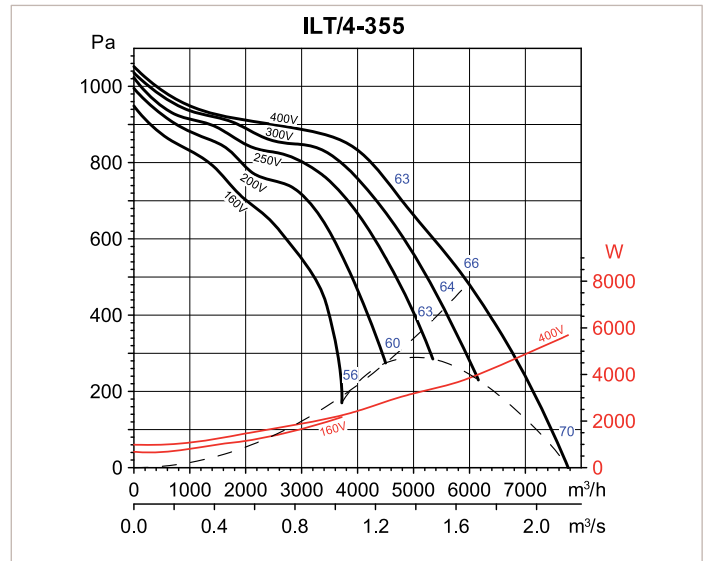
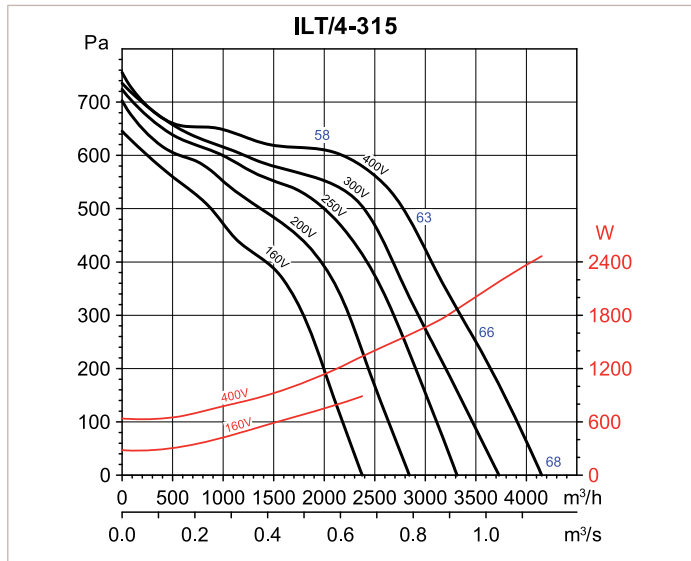
- Q = Air volume in, m³/hr and m³/s.
- Pe = Static pressure in Pa.
- Dry air at 20°C and 760 mmHg.
- Air flow data in accordance with the following standards: UNE 100-212-89, BS 848, Part 1; AMCA 210-85 and ASHRAE 51-1985.



The curves shown represent different performances obtained using an RMB-RMT auto-transformer speed control.

■ Performance curves

- Q = Air volume in, m³/hr and m³/s.
- P_e = Static pressure in Pa.
- Dry air at 20°C and 760 mmHg.
- Air flow data in accordance with the following standards: UNE 100-212-89, BS 848, Part 1; AMCA 210-85 and ASHRAE 51-1985.

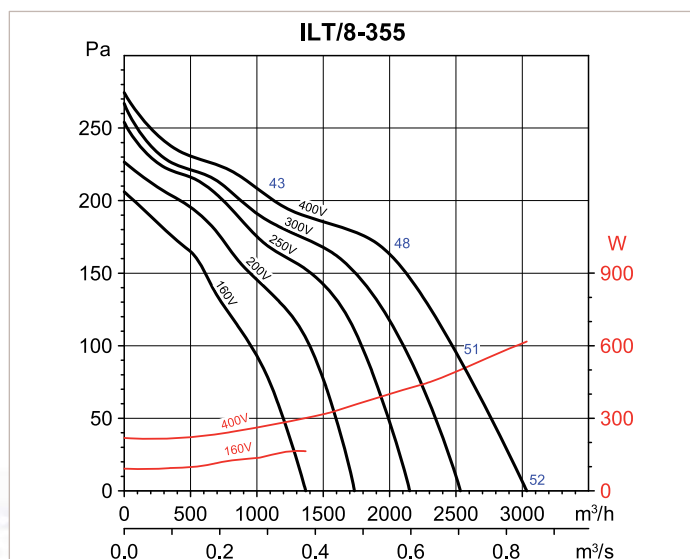
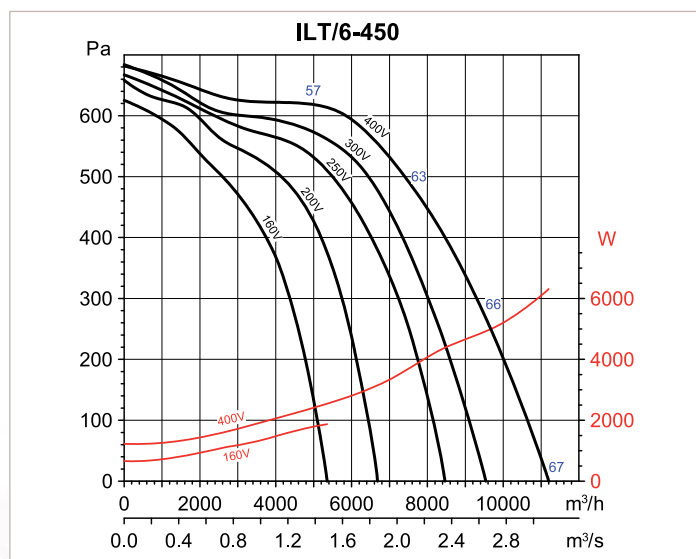
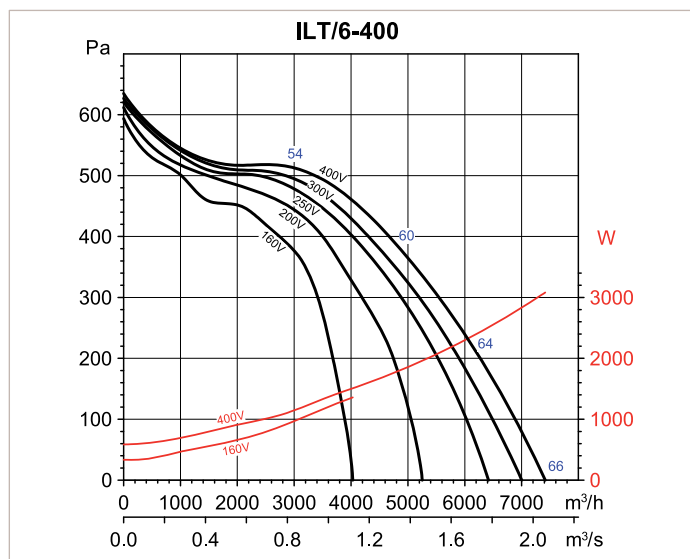
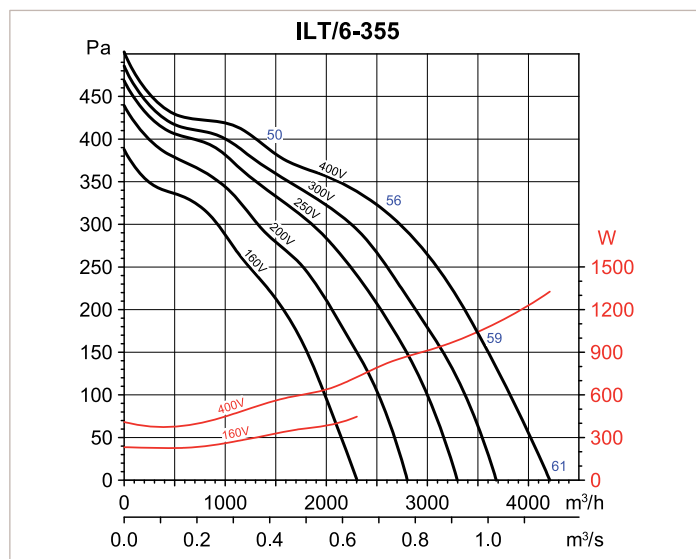
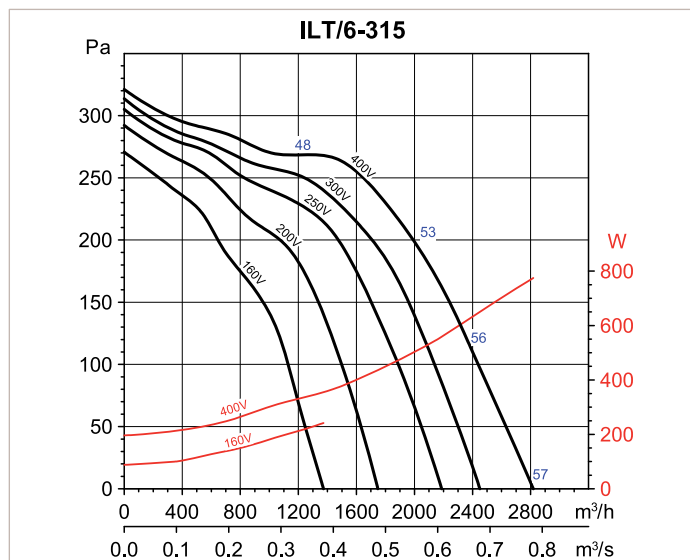
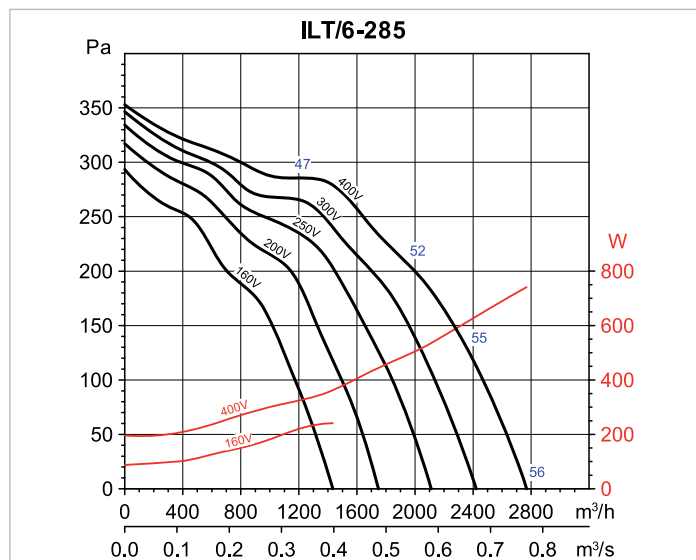


The curves shown represent different performances obtained using an RMB-RMT auto-transformer speed control.



Performance curves

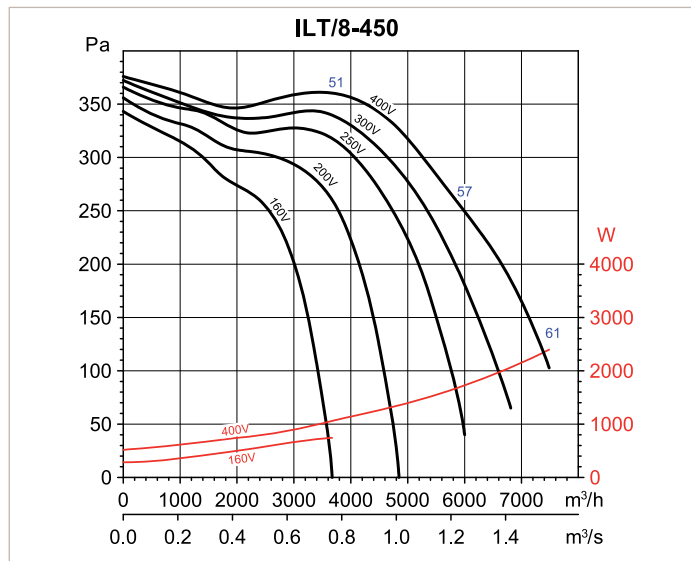
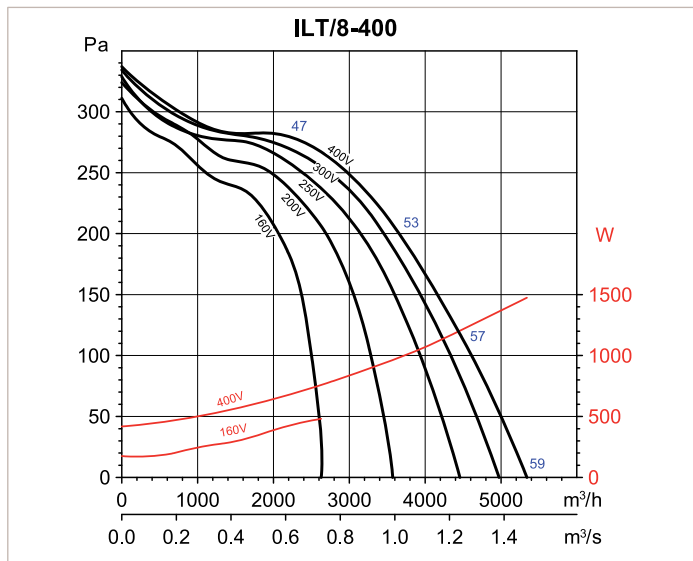
- Q = Air volume in, m³/hr and m³/s.
- Pe = Static pressure in Pa.
- Dry air at 20°C and 760 mmHg.
- Air flow data in accordance with the following standards: UNE 100-212-89, BS 848, Part 1; AMCA 210-85 and ASHRAE 51-1985.



The curves shown represent different performances obtained using an RMB-RMT auto-transformer speed control.

■ Performance curves

- Q = Air volume in, m³/hr and m³/s.
- Pe = Static pressure in Pa.
- Dry air at 20°C and 760 mmHg.
- Air flow data in accordance with the following standards: UNE 100-212-89, BS 848, Part 1; AMCA 210-85 and ASHRAE 51-1985.



The curves shown represent different performances obtained using an RMB-RMT auto-transformer speed control.

■ Mounting accessories

Model	Anti-vibration mount	Duct flange	Flexible connector	Sound attenuator	Defense guard	Damper	Filtration box G4
ILT-200	ISA	IBR-200	IAE-200	IAA-200	DEF-400x200	IJK-200	IFL-200 G4
ILT-225	ISA	IBR-225	IAE-225	IAA-225	DEF-500x250	IJK-225	IFL-225 G4
ILT-250	ISA	IBR-250	IAE-250	IAA-250	DEF-500x300	IJK-250	IFL-250 G4
ILT-285	ISA	IBR-285	IAE-285	IAA-285	DEF-600x300	IJK-285	IFL-385 G4
ILT-315	ISA	IBR-315	IAE-315	IAA-315	DEF-600x350	IJK-315	IFL-315 G4
ILT-355	ISA	IBR-355	IAE-355	IAA-355	DEF-700x400	IJK-355	IFL-335 G4
ILT-400	ISA	IBR-400	IAE-400	IAA-400	DEF-800x500	IJK-400	IFL-400 G4
ILT-450	ISA	IBR-450	IAE-450	IAA-450	DEF-1000x500	IJK-450	IFL-450 G4

Model	Filtration* box for F5,F6, F7 or F8 filters	Filter F5	Filter F6	Filter F7	Filter F8	Electric heater battery	Water coil
ILT-200	IFL-200 F	IFR-200 F5	IFR-200 F6	IFR-200 F7	IFR-200 F8	IBE-200/9T	IBW-200
ILT-225	IFL-225 F	IFR-225 F5	IFR-225 F6	IFR-225 F7	IFR-225 F8	IBE-225/16,5T	IBW-225
ILT-250	IFL-250 F	IFR-250 F5	IFR-250 F6	IFR-250 F7	IFR-250 F8	IBE-250/16,5T	IBW-250
ILT-285	IFL-385 F	IFR-285 F5	IFR-285 F6	IFR-285 F7	IFR-285 F8	IBE-285/20T	IBW-285
ILT-315	IFL-315 F	IFR-315 F5	IFR-315 F6	IFR-315 F7	IFR-315 F8	IBE-315/30T	IBW-315
ILT-355	IFL-355 F	IFR-355 F5	IFR-355 F6	IFR-355 F7	IFR-355 F8	IBE-355/30T	IBW-355
ILT-400	IFL-400 F	IFR-400 F5	IFR-400 F6	IFR-400 F7	IFR-400 F8	IBE-400/50T	IBW-400
ILT-450	IFL-450 F	IFR-450 F5	IFR-450 F6	IFR-450 F7	IFR-450 F8	IBE-450/63T	IBW-450



Specific accessories



ISA
Anti-vibration
Mounting

(1 ISA = 4 supports)



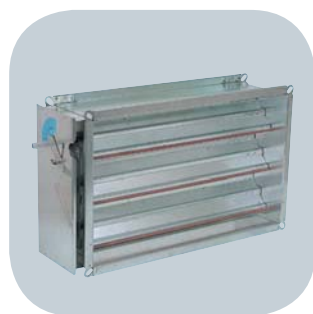
IAE
Rectangular flexible
Connector



IBR
Rectangular duct
Flange

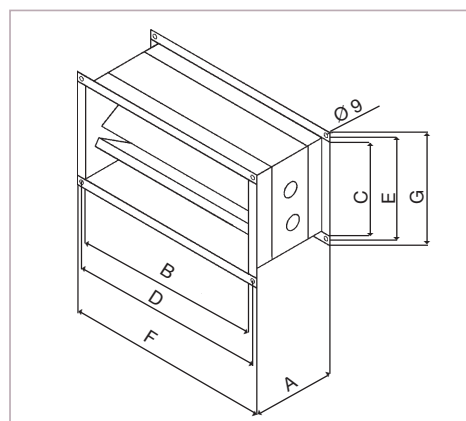


DEF
Rectangular
defense Guard



IJK
Damper

- Supplied with standard rectangular flanges
- Manufactured from galvanised sheet steel
- Fitted as standard with removable handle
- Shaft diameter: 10 mm
- As accessory: electrical damper actuator LM230A



Model	A	B	C	D	E	F	G	Weight
IJK-200	162	400	200	420	220	440	240	3,3 kg
IJK-225	162	500	250	520	270	540	290	4,2 kg
IJK-250	162	500	300	520	320	540	340	4,9 kg
IJK-285	162	600	300	620	320	640	340	5,4 kg
IJK-315	162	600	350	620	370	640	390	5,8 kg
IJK-355	162	700	400	720	420	740	440	7,1 kg
IJK-400	162	800	500	820	520	840	540	9,2 kg
IJK-450	162	1000	500	1020	520	1040	540	11,0 kg

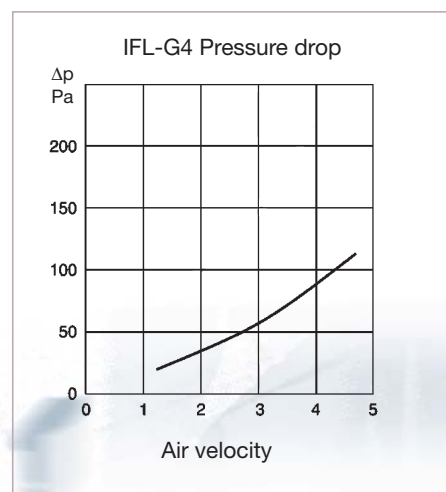
DIRECT AIR ILB/ILT

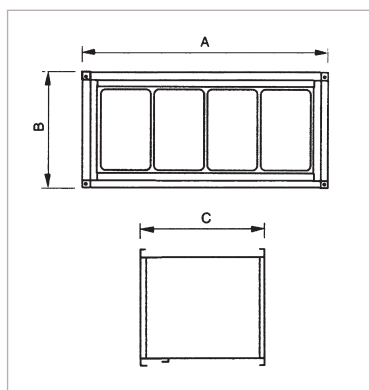
In-Line duct fans



IFL G4
Filtration box

- Casing manufactured from galvanised sheet steel and provided with G4 filter type.
- Supplied with standard rectangular flanges
- Access door to ease filter replacement
- Can be fitted in any position
- Working temperature up to 80°C
- Maximum recommended differential pressure: 200Pa
- Spare filter: IFR .. G4
- As accessory: Differential pressure switch (DPS 2-30 pressure switch - 20 to 300Pa)



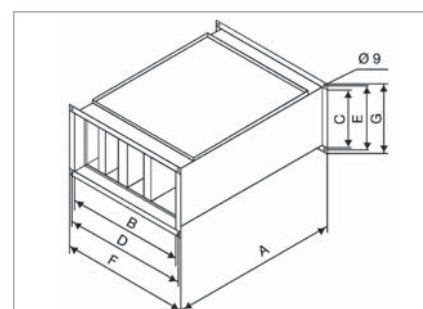


Model	A	B	C	Weight	Spare filter
IFL-200 G4	440	240	190	3,5 kg	IFR-200 G4
IFL-225 G4	540	290	190	4,0 kg	IFR-225 G4
IFL-250 G4	540	340	190	4,5 kg	IFR-250 G4
IFL-285 G4	640	340	190	5,0 kg	IFR-285 G4
IFL-315 G4	640	390	190	5,5 kg	IFR-315 G4
IFL-355 G4	740	440	190	6,0 kg	IFR-355 G4
IFL-400 G4	840	540	190	7,5 kg	IFR-400 G4
IFL-450 G4	1040	540	190	9,0 kg	IFR-450 G4



IFL- F
Filtration box (Casing supplied without filter)

- Casing manufactured from galvanised sheet steel, supplied without filter and used to mount IFR filter type.
- Supplied with standard rectangular flanges
- Access door to mount the IFR filter and to ease filter replacement
- Can be fitted in any position
- Differential pressure switch as accessory (DPS 2-30 and 10-100 pressure switches - 20 to 300Pa and 100 to 1000Pa)



Model	A	B	C	D	E	F	G	Weight	Filter type			
									IFR-200 F5	IFR-200 F6	IFR-200 F7	IFR-200 F8
IFL-200 F	580	400	200	420	220	440	240	7,8 kg	IFR-200 F5	IFR-200 F6	IFR-200 F7	IFR-200 F8
IFL-225 F	580	500	250	520	270	540	290	9,2 kg	IFR-225 F5	IFR-225 F6	IFR-225 F7	IFR-225 F8
IFL-250 F	580	500	300	520	320	540	340	10,0 kg	IFR-250 F5	IFR-250 F6	IFR-250 F7	IFR-250 F8
IFL-285 F	580	600	300	620	320	640	340	11,4 kg	IFR-285 F5	IFR-285 F6	IFR-285 F7	IFR-285 F8
IFL-315 F	580	600	350	620	370	640	390	12,0 kg	IFR-315 F5	IFR-315 F6	IFR-315 F7	IFR-315 F8
IFL-355 F	580	700	400	720	420	740	440	11,8 kg	IFR-355 F5	IFR-355 F6	IFR-355 F7	IFR-355 F8
IFL-400 F	580	800	500	820	520	840	540	16,8 kg	IFR-400 F5	IFR-400 F6	IFR-400 F7	IFR-400 F8
IFL-450 F	580	1000	500	1020	520	1040	540	18,8 kg	IFR-450 F5	IFR-450 F6	IFR-450 F7	IFR-450 F8

Filter IFR F5

- Class filter grade F5 (EU5) Filter
- Maximum working temperature 80° C
- Maximum recommended differential pressure 450 Pa

Filter IFR F6

- Class filter grade F6 (Eu6)
- Maximum working temperature 80° C
- Maximum recommended differential pressure 450 Pa

Filter IFR F7

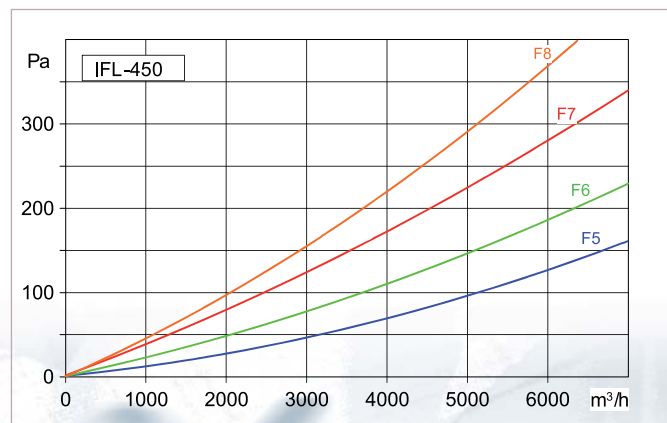
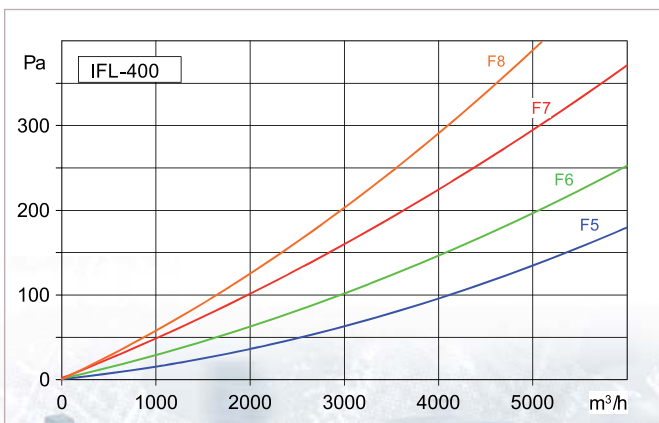
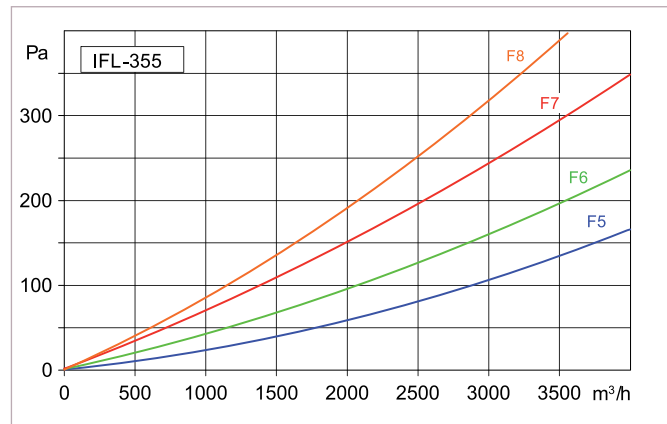
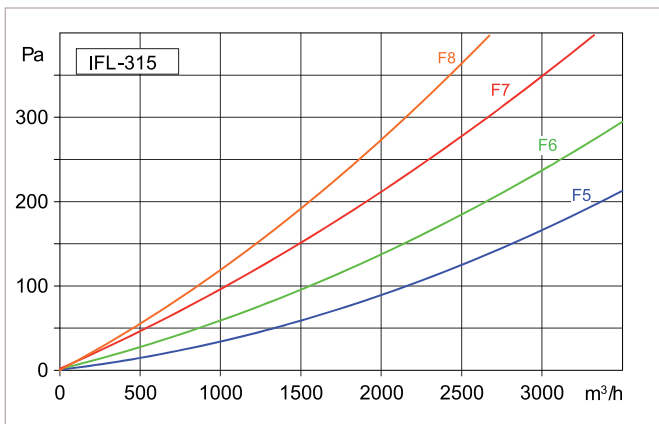
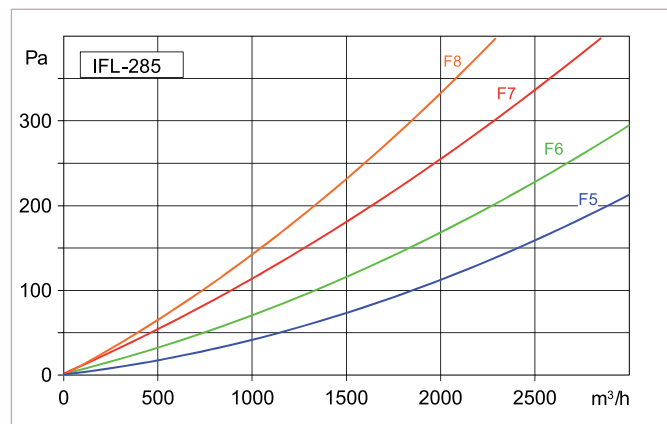
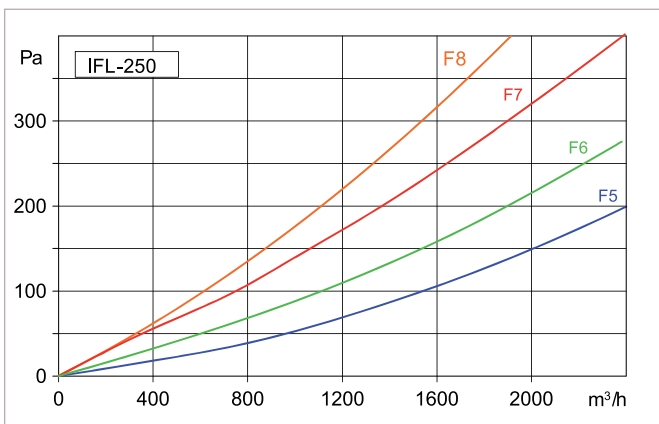
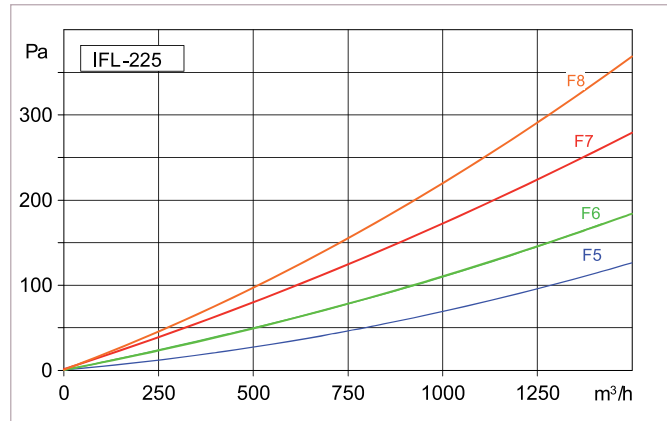
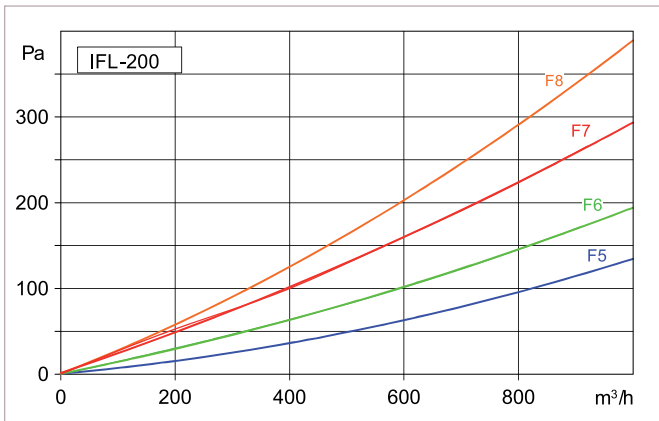
- Class filter grade F7 (EU7)
- Maximum working temperature 80° C
- Maximum recommended differential pressure 450 Pa

Filter IFR F8

- Class filter grade F8 (Eu8)
- Maximum working temperature 80° C
- Maximum recommended differential pressure 450 Pa



Filtration box IFL..F with filter mounted - Pressure drops



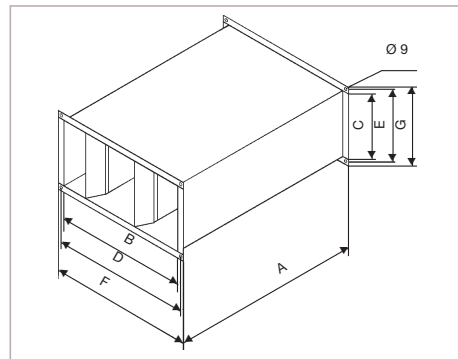
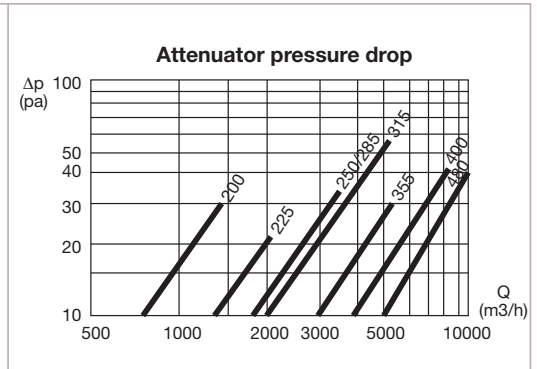
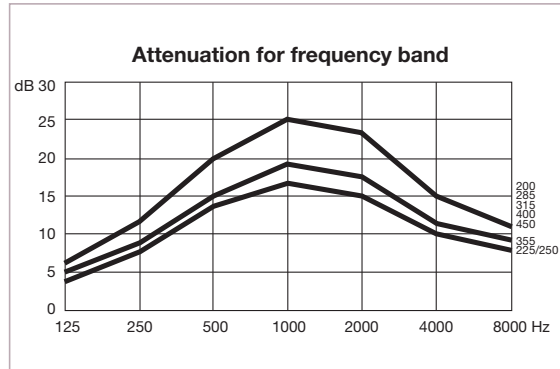
DIRECT AIR ILB/ILT

In-Line duct fans



IAA Sound Attenuators

- designed to reduce in-duct sound levels.
- all models are designed in 1m length.



Model	A	B	C	D	E	F	G	Weight
IAA-200	1000	400	200	420	220	440	240	18,6 kg
IAA-225	1000	500	250	520	270	540	290	23,0 kg
IAA-250	1000	500	300	520	320	540	340	23,0 kg
IAA-285	1000	600	300	620	320	640	340	28,2 kg
IAA-315	1000	600	350	620	370	640	390	30,0 kg
IAA-355	1000	700	400	720	420	740	440	34,6 kg
IAA-400	1000	800	500	820	520	840	540	44,2 kg
IAA-450	1000	1000	500	1020	520	1040	540	56,0 kg



IBE Electric Heater Batteries

Heater batteries to install on the discharge side of the fans. The units incorporate insulated element rods (230V – 3 W/cm²) with an automatic integrated safety thermostat (set at 60°C) that is wired in series with an additional safety overheat manual reset thermostat (RESET - set at 120°C).

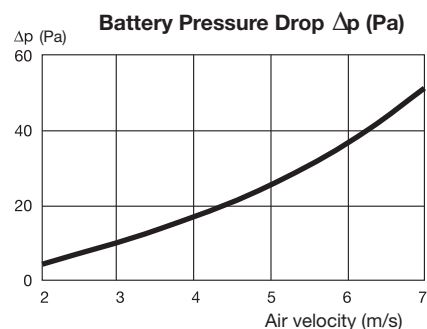
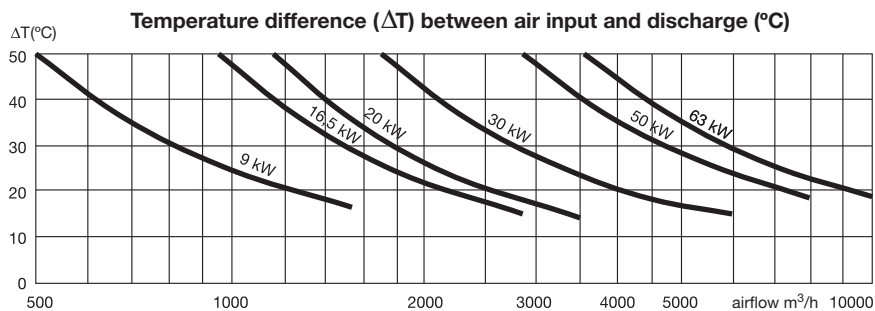
All wiring terminations and connections are located on the side of heater casing.

All models required 3 x 400V connection to the electrical supply, and 230V single phase connection for the circuit protection.

- Units supplied with an IP43 rated wiring enclosure.
- Minimum air velocity through the heater batteries: 2 m/s.
- Maximum output temperature from the discharge: 40°C.

To ease its use, a battery controller can be incorporated (refer to page 683) modulating the heater output as a function of the required environmental temperature.

Fan model	Electric heater type	Heater power output (kW)	Current (A)	Heater element subdivision (kW)	Minimum air volume (m ³ /h)	Weight (kg)	Base accessories		
							Controller	Duct temp. sensor	Pressure switch
200	IBE-200/9T	9	13,6	3 x 3	580	11,2	TTC-2000	TG-K	DPS 2-30
225	IBE-225/16,5T	16,5	25	3 x 5,5	900	14,8	TTC-2000	TG-K	DPS 2-30
250	IBE-250/16,5T	16,5	25	3 x 5,5	1100	15,5	TTC-2000	TG-K	DPS 2-30
285	IBE-285/20T	20	30,4	3 x 6,7	1300	16,6	TTC-2000+TTS1	TG-K	DPS 2-30
315	IBE-315/30T	30	45,6	6,8+6,8+8,2+8,2	1500	21,2	TTC-2000+TTS1	TG-K	DPS 2-30
355	IBE-355/30T	30	45,6	6,8+6,8+8,2+8,2	2000	21,2	TTC-2000+TTS1	TG-K	DPS 2-30
400	IBE-400/50T	50	76	3 x 16,7	2400	25	TTC-40F + TTS4	TG-K	DPS 2-30
450	IBE-450/63T	63	95,7	3 x 21	3600	30	TTC-40F + TTS4	TG-K	DPS 2-30



SELECTION EXAMPLE

DATA:

- Air volume: 3300 m^3/h (Q)
- Temp. of air entering: -5°C
- Temp. required at discharge: $+20^{\circ}\text{C}$

HEATER POWER REQUIRED:

$$P = Q \times 0,36 \times \Delta T$$

$$= 3300 \times 0,36 \times [20 - (-5)]$$

$$= 29,700 \text{ W}$$

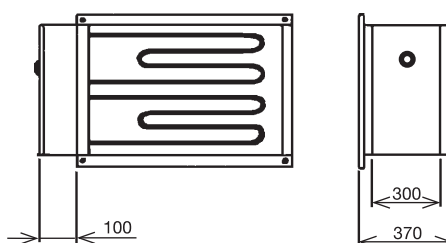
$$= 29,7 \text{ kW}$$

BATTERY SELECTION

- IBE-315/30T or IBE-355/30T
The final selection depends upon:
- Available height
 - Total system pressure drop
 - Sound level

Model	B	C
200	400	198
225	500	248
250	500	298
285	600	298
315	600	348
355	700	398
400	800	498
450	1000	498

Dimensions in (mm)



WARNING

- The electrical connection should provide a device for controlling the air flow. The heating battery has to be operative only when it reaches the minimum flow or an air velocity higher than 2 m/s.
- The electrical installation has to ensure that the electric heater battery cannot start up if the fan is switched off. The battery has to start up after or at the same time as the fan.
- The electrical installation has to ensure that the fan cannot be stopped when the electric battery is operating. The fan has to stop after or at the same time as the battery.

IBW, Hot water coil

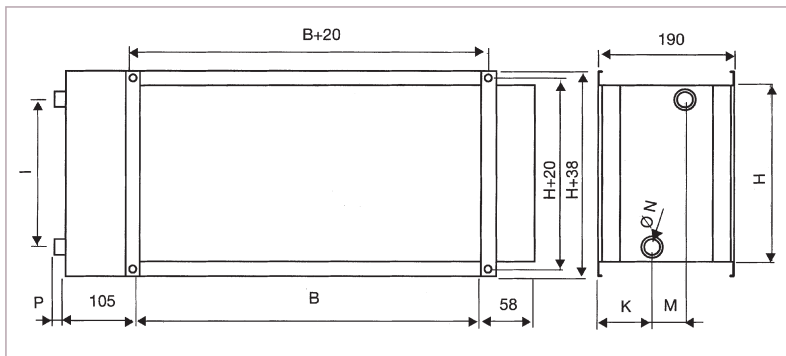


- Casing manufactured from galvanised sheet steel
- Copper tubes and aluminium fins
- Supplied with standard rectangular flanges
- Can be fitted in horizontal or vertical position
- Maximum water pressure 16bar
- Maximum water temperature: 120°C
- As accessory: Filtration box and pressure switch to reduce and control the coil clogging

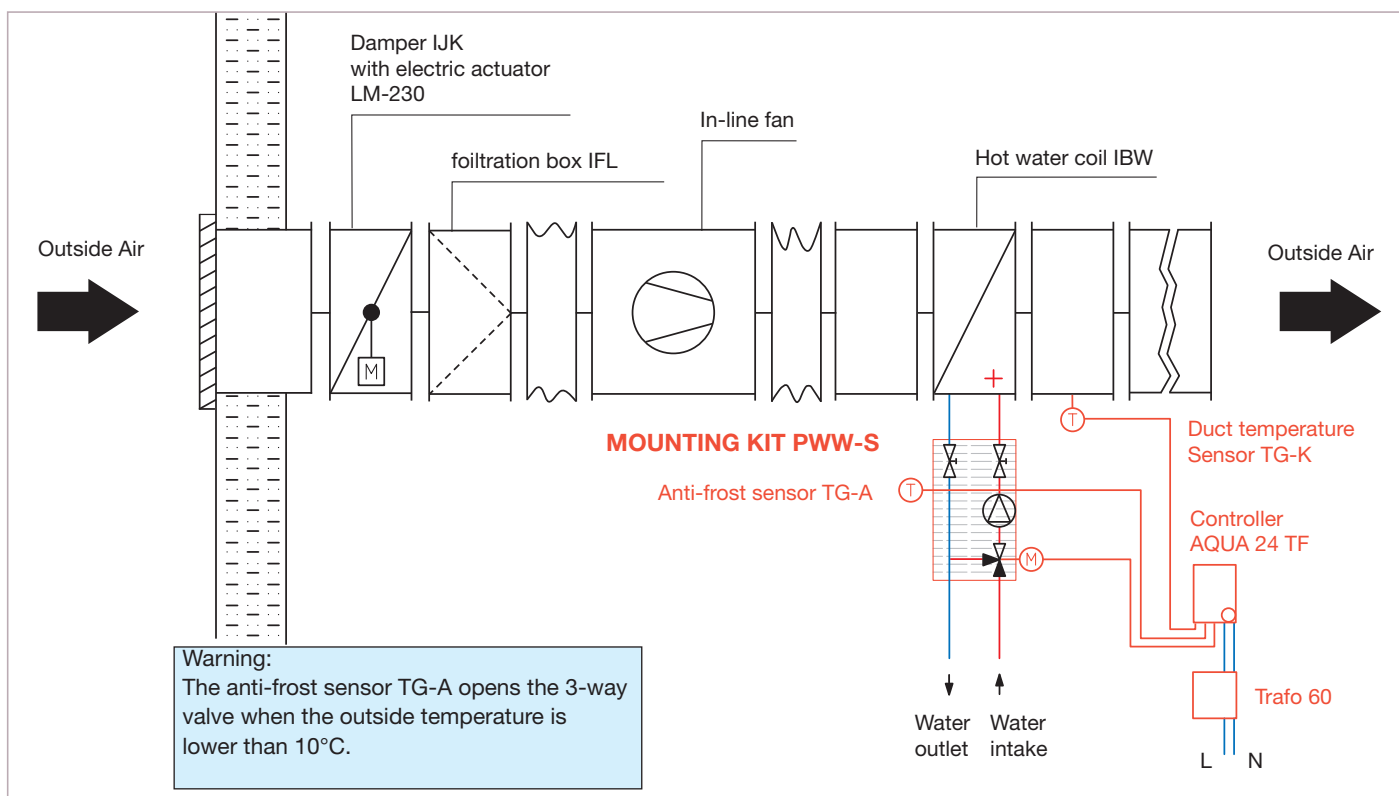
Model	Air				Water		Weight (kg)	Duct coil (Inch)	Accessories		Thermostat (***)	
	Power		ΔT air		Airflow (m^3/h)	Pressure (kPa)*			Volume (l/h^1)	Coil mounting kit		
	(KW ¹)	(KW ²)	($^{\circ}\text{C}$)*	($^{\circ}\text{C}$)*						Model		Setting
IBW-200-2	10,1	5,9	25,9	15,1	1152	1,2	435	6	3/4"	PWW-S1	1	THE 16/4 A
IBW-200-4	17,6	11,5	45,1	29,4	1152	3,0	756	7	3/4"	PWW-S1	1	THE 16/4 A
IBW-225-2	16,5	10,2	27,0	16,8	1800	2,2	709	7	3/4"	PWW-S1	1	THE 16/4 A
IBW-225-4	28,3	18,9	46,5	31,1	1800	5,9	1213	10	3/4"	PWW-S1	2	THE 16/4 A
IBW-250-2	19,8	12,3	27,0	16,8	2160	2,2	853	8	3/4"	PWW-S1	1	THE 16/4 A
IBW-250-4	33,6	22,3	46,0	30,5	2160	4,8	1443	11	1"	PWW-S2	2	THE 16/4 A
IBW-285-2	24,4	15,6	27,8	17,8	2592	3,6	1051	9	3/4"	PWW-S1	2	THE 16/4 A
IBW-285-4	41,0	27,6	46,8	31,5	2592	7,8	1760	12	1"	PWW-S3	3	THE 16/4 A
IBW-315-2	28,4	18,2	27,8	17,8	3024	3,6	1228	10	3/4"	PWW-S1	2	THE 16/4 A
IBW-315-4	48,0	32,4	46,9	31,7	3024	8,3	2063	13	1"	PWW-S3	3	THE 16/4 A
IBW-355-2	42,2	26,5	31,0	19,4	4032	2,9	1821	14	1"	PWW-S2	3	THE 16/4 A
IBW-355-3	57,8	36,5	42,4	26,8	4032	2,4	2476	16	1"	PWW-S3	3	THE 16/4 A
IBW-400-2	62,2	40,2	31,9	20,6	5760	4,9	2685	20	1"	PWW-S3	3	THE 16/4 A
IBW-400-3	84,5	54,5	43,4	28,0	5760	3,7	3628	25	1"	-	-	-
IBW-450-2	79,8	52,7	32,8	21,6	7200	8,7	3424	23	1"	-	-	-
IBW-450-3	108,7	71,7	44,6	29,5	7200	6,7	4665	29	1"	-	-	-

Outdoor temperature 0°C and water temperature: *80/60 $^{\circ}\text{C}$ - **60/40 $^{\circ}\text{C}$

*** When the motor pump is not connected directly to the hot-water boiler



Model	B	H	I	K	M	P
IBW-200	400	200	150	84	43	28
IBW-225	500	250	200	62	65	28
IBW-250	500	300	250	84	43	28
IBW-285	600	300	250	62	65	35
IBW-315	600	350	230	84	43	28
IBW-355	700	400	350	66	58	35
IBW-400	800	500	450	82	47	35
IBW-450	1000	500	450	66	58	35





**PWW
Mounting kit**

- Complete mounting kit for hot water coil
- Water flow and temperature control
 - Thermal insulation
 - 3 operating levels
 - Motor supply 24 V AC
 - Water temperature thermometers
 - Manual water gates
 - Supplied with flexible ducts to connect to the water coil
 - Supplied with waterproof seals
 - Temperature controller AQUA 24TF with power supply 24VAC
 - Safety isolating transformer 230V/24VAC
 - Includes duct and anti-frost sensor
 - Alarm contact (Anti-frost): Free-voltage contact 24V and 230V 2A
 - When the motor pump is not connected directly to the hot water production system use the room thermostat THE 16/4 A to control it.

Model		PWW-S1	PWW-S2	PWW-S3
Maximum pressure	(Bar)	3	3	3
Maximum temperature	(°C)	115	115	115
Tube diameter toward coil	(Inches)	3/4"	1"	1"
Tube diameter toward boiler	(Inches)	1 1/2"	1 1/2"	2"
Minimum water flow	(l/h)	300	600	1200
Maximum water flow	(l/h)	1300	1900	2800
Dimensions (AxLxP)	(mm)	450x250x200	450x250x200	450x250x200

Electrical Accessories



**Fan speed
Controllers**
RMB
RMT



**DPS 2-30
DPS 10-100**
Differential pressure
switches:
- DPS 2-30: from 20Pa to 300Pa
- DPS 10-100: from 100Pa to 1000Pa



LM-230A
Electrical damper
actuator



**TTC-2000
TTC-2000 + TTS-1**
Three phase electrical heater
battery controller.
The TTC-2000 needs an
external temperature sensor
to control the battery (TG-K300
or TG-R530)



TTC-40F + TTS-4
Three phase electrical heater
battery controller.
The TTC-40F needs an
external temperature sensor
to control the battery (TG-K300
or TG-R530).



TG-K330
Duct temperature
sensor

TG-R530
Room temperature
sensor

For more information see ELECTRICAL ACCESSORIES.

