

Chilled beam iQ Star WEGA



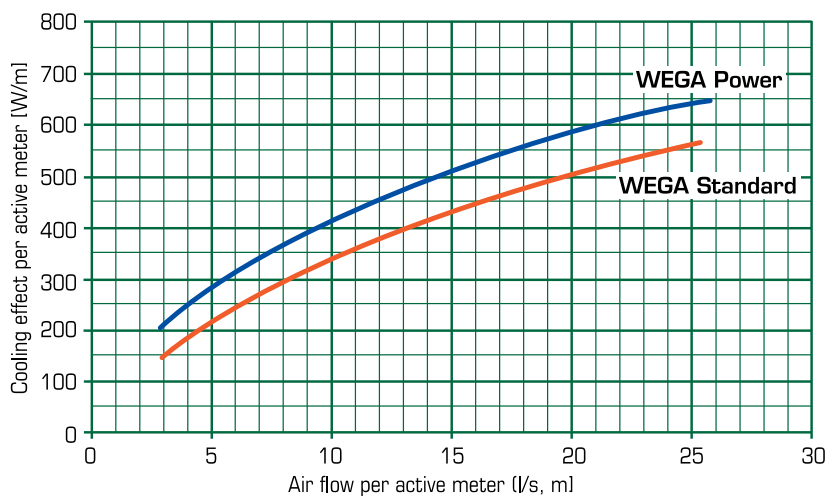
Functions

- Energy Control
- Motorized Energy Control
- FPC
- Control and regulation equipment
- Heating function: water coil or electrical coils



The chilled beam iQ Star WEGA is an integrated system for ventilation, cooling and heating, fulfilling most needs for indoor climate. There are two versions of WEGA: a highly flexible base beam (IQIF) and a beam with very high cooling effect (IQIH). The air flow can easily be set using "Energy Control", a patent-pending function that provides a comfortable indoor climate. In order to further increase flexibility, EC can be fitted with a motor, MEC (Motorized Energy Control), i.e. the beam is equipped with a VAV function. EC consists of a nozzle rail on each side of the chilled beam (left and right). The adjusting rail for WEGA Standard has six settings (6 nozzles) and WEGA Power has three different settings (3 nozzles). WEGA has a covered upper side and is intended for flush-mounting in false ceilings.

Quick Selection



The diagram shows the total cooling effect per active meter at a total pressure of 70 Pa, water flow $q_w = 0,05$ l/s, temperature difference between room air and supply air $\Delta t = 8$ °C and temperature difference between mean water temperature and room temperature $\Delta t = 8$ °C.

Product Facts

- WEGA chilled beam for flushmounting in false ceilings
- Available in two different executions: WEGA Standard which is very flexible and WEGA Power, a chilled beam with higher cooling effect.
- Fastening brackets for rapid and simple installation - lift up - snap in place
- Available with the following functions: heating coil, electric heating, Energy Control, Flow Pattern Control (FPC air deflector) and control and regulation equipment

Product code example

Covered chilled beam
 IQIF-180-11-1-01-01, standard.
 Covered chilled beam
 IQIH-180-11-1-01-01, Power.

Technical data for cooling effect - WEGA Standard

Two-way chilled beam 8 rows (2-pipe system) at pressure drop 70 Pa on the air side Ø 125, the induction rail number 1.

Beam length = 1,20 m (Coil length = 1.04 m)
 Water flow, $q_w = 0.05$ l/s, Pressure drop, $\Delta p_w = 3.4$ kPa

Nozzle	$q_l, \text{l/s}$	P_{tot}, W			P_{coil}, W			$L_{A10}, \text{dB(A)}$
		6	8	10	6	8	10	
1	2.9	133	168	203	105	140	175	<20
2	6	226	282	338	168	224	280	<20
3	9.7	317	391	466	224	298	373	<20
4	13.7	394	482	569	263	350	438	22
5	16.9	449	544	640	287	382	478	24
6	24.9	585	700	815	346	461	576	27

Beam length = 1.35 m (Coil length = 0.97 m)
 Water flow, $q_w = 0.05$ l/s, Pressure drop, $\Delta p_w = 3.55$ kPa

Nozzle	$q_l, \text{l/s}$	P_{tot}, W			P_{coil}, W			$L_{A10}, \text{dB(A)}$
		6	8	10	6	8	10	
1	0	15	20	25	15	20	25	<20
2	3	127	159	192	98	130	163	<20
3	6.8	226	279	333	161	214	268	<20
4	13.3	363	441	519	235	313	391	<20
5	24	533	634	735	303	404	505	25
6	28.8	598	705	812	322	429	536	27

Beam length = 1.80 m (Coil length = 1.64 m)
 Water flow, $q_w = 0.05$ l/s, Pressure drop, $\Delta p_w = 4.5$ kPa

Nozzle	$q_l, \text{l/s}$	P_{tot}, W			P_{coil}, W			$L_{A10}, \text{dB(A)}$
		6	8	10	6	8	10	
1	4.6	210	265	320	166	221	276	<20
2	9.4	353	441	529	263	351	439	<20
3	14.9	490	606	722	347	463	579	<20
4	21.1	614	752	889	412	549	686	23
5	26	697	846	995	447	596	745	25
6	38.8	909	1088	1267	537	716	895	30

Beam length = 2.40 m (Coil length = 2.24 m)
 Water flow, $q_w = 0.05$ l/s, Pressure drop, $\Delta p_w = 5.5$ kPa

Nozzle	$q_l, \text{l/s}$	P_{tot}, W			P_{coil}, W			$L_{A10}, \text{dB(A)}$
		6	8	10	6	8	10	
1	7.2	297	373	449	228	304	380	<20
2	13.6	491	612	732	361	481	601	<20
3	21	675	833	990	473	631	789	20
4	29.6	845	1032	1219	561	748	935	24
5	36.6	955	1156	1358	604	805	1006	27
6	53	1225	1464	1703	716	955	1194	33

Beam length = 3.00 m (Coil length = 2.84 m)
 Water flow, $q_w = 0.05$ l/s, Pressure drop, $\Delta p_w = 6.7$ kPa

Nozzle	$q_l, \text{l/s}$	P_{tot}, W			P_{coil}, W			$L_{A10}, \text{dB(A)}$
		6	8	10	6	8	10	
1	8.4	369	465	561	288	384	480	<20
2	16.5	617	769	922	458	611	764	<20
3	26	845	1044	1242	596	794	993	21
4	37.2	1053	1285	1517	696	928	1160	25
5	45.3	1181	1430	1679	746	995	1244	28
6	65.5	1500	1791	2081	872	1162	1453	33

Two-way chilled beam 6 rows (4-pipe system) at pressure drop 70 Pa on the air side Ø 125, the induction rail number 1.

Data for rail 2 and other operating conditions, see ExSelAir.

Beam length = 1.20 m (Coil length = 1.04 m)
 Water flow, $q_w = 0.05$ l/s, Pressure drop, $\Delta p_w = 2.6$ kPa

Nozzle	$q_l, \text{l/s}$	P_{tot}, W			P_{coil}, W			$L_{A10}, \text{dB(A)}$
		6	8	10	6	8	10	
1	2.9	125	158	190	98	130	163	<20
2	6	208	259	309	151	201	251	<20
3	9.7	287	352	417	194	259	324	<20
4	13.7	357	432	507	225	300	375	22
5	16.9	405	486	567	243	324	405	24
6	24.9	528	624	720	289	385	481	27

Beam length = 1.80 m (Coil length = 1.64 m)
 Water flow, $q_w = 0.05$ l/s, Pressure drop, $\Delta p_w = 3.4$ kPa

Nozzle	$q_l, \text{l/s}$	P_{tot}, W			P_{coil}, W			$L_{A10}, \text{dB(A)}$
		6	8	10	6	8	10	
1	4.6	197	248	299	153	204	255	<20
2	9.4	326	404	483	236	314	393	<20
3	14.9	448	550	652	305	407	509	<20
4	21.1	556	674	791	353	471	589	23
5	26	630	757	883	380	507	634	25
6	38.8	820	969	1119	448	597	746	30

Beam length = 2.40 m (Coil length = 2.24 m)
 Water flow, $q_w = 0.05$ l/s, Pressure drop, $\Delta p_w = 4.0$ kPa

Nozzle	$q_l, \text{l/s}$	P_{tot}, W			P_{coil}, W			$L_{A10}, \text{dB(A)}$
		6	8	10	6	8	10	
1	7.2	281	352	423	212	283	354	<20
2	13.6	452	560	667	322	429	536	<20
3	21	613	750	887	411	548	685	20
4	29.6	761	920	1079	477	636	795	24
5	36.6	862	1032	1203	511	681	851	27
6	53	1108	1308	1508	599	799	999	33

Beam length = 3.00 m (Coil length = 2.84 m)
 Water flow, $q_w = 0.05$ l/s, Pressure drop, $\Delta p_w = 5.0$ kPa

Nozzle	$q_l, \text{l/s}$	P_{tot}, W			P_{coil}, W			$L_{A10}, \text{dB(A)}$
		6	8	10	6	8	10	
1	8.4	351	441	531	270	360	450	<20
2	16.5	564	699	835	406	541	676	<20
3	26	765	937	1108	515	687	859	21
4	37.2	956	1155	1355	599	798	998	25
5	45.3	1098	1319	1540	663	884	1105	28
6	65.5	1361	1605	1849	732	976	1220	33

Technical data for cooling effect - WEGA Power

Two-way chilled beam 10 rows (2-pipe system) at pressure drop 70 Pa on the air side Ø 125, the induction rail number 4.

Beam length = 1,20 m (Coil length = 1.04 m)
 Water flow, $q_w = 0.05$ l/s, Pressure drop, $\Delta p_w = 3.7$ kPa

Nozzle	$q_l, \text{l/s}$	P_{tot}, W			P_{coil}, W			$L_{A10}, \text{dB(A)}$
		6	8	10	6	8	10	
1	6.6	291	367	443	228	304	380	<20
2	13.1	439	544	648	314	418	523	<20
3	26.8	665	801	937	408	544	680	<20

Beam length = 1.35 m (Coil length = 0.97 m)
 Water flow, $q_w = 0.05$ l/s, Pressure drop, $\Delta p_w = 3.7$ kPa

Nozzle	$q_l, \text{l/s}$	P_{tot}, W			P_{coil}, W			$L_{A10}, \text{dB(A)}$
		6	8	10	6	8	10	
1	5.9	268	339	409	212	282	353	<20
2	11.8	405	502	600	292	389	486	<20
3	24.1	612	739	866	381	508	635	<20

Beam length = 1.80 m (Coil length = 1.64 m)
 Water flow, $q_w = 0.05$ l/s, Pressure drop, $\Delta p_w = 4.9$ kPa

Nozzle	$q_l, \text{l/s}$	P_{tot}, W			P_{coil}, W			$L_{A10}, \text{dB(A)}$
		6	8	10	6	8	10	
1	10.1	452	571	689	356	474	593	<20
2	20	683	847	1011	491	655	819	<20
3	41.8	1032	1242	1453	631	841	1051	<20

Beam length = 2.40 m (Coil length = 2.24 m)
 Water flow, $q_w = 0.05$ l/s, Pressure drop, $\Delta p_w = 6$ kPa

Nozzle	$q_l, \text{l/s}$	P_{tot}, W			P_{coil}, W			$L_{A10}, \text{dB(A)}$
		6	8	10	6	8	10	
1	13.4	611	772	932	482	643	804	<20
2	26.4	920	1142	1365	667	889	1111	21
3	54.5	1354	1631	1908	831	1108	1385	33

Beam length = 3.00 m (Coil length = 2.84 m)
 Water flow, $q_w = 0.05$ l/s, Pressure drop, $\Delta p_w = 6.7$ kPa

Nozzle	$q_l, \text{l/s}$	P_{tot}, W			P_{coil}, W			$L_{A10}, \text{dB(A)}$
		6	8	10	6	8	10	
1	16.9	780	986	1192	618	824	1030	<20
2	33.5	1152	1429	1705	830	1107	1384	21
3	68.5	1670	2008	2345	1013	1350	1688	35

Two-way chilled beam 8 rows (4-pipe system) at pressure drop 70 Pa on the air side Ø 125, the induction rail number 4.

Data for rail 1-3 and other operating conditions, see ExSelAir.

Beam length = 1.20 m (Coil length = 1.04 m)
 Water flow, $q_w = 0.05$ l/s, Pressure drop, $\Delta p_w = 3.4$ kPa

Nozzle	$q_l, \text{l/s}$	P_{tot}, W			P_{coil}, W			$L_{A10}, \text{dB(A)}$
		6	8	10	6	8	10	
1	6.6	288	362	437	224	299	374	<20
2	13.1	429	530	631	303	404	505	<20
3	26.8	645	774	904	388	517	646	<20

Beam length = 1.35 m (Coil length = 0.97 m)
 Water flow, $q_w = 0.05$ l/s, Pressure drop, $\Delta p_w = 3.4$ kPa

Nozzle	$q_l, \text{l/s}$	P_{tot}, W			P_{coil}, W			$L_{A10}, \text{dB(A)}$
		6	8	10	6	8	10	
1	5.9	264	334	403	208	277	346	<20
2	11.8	395	488	582	281	375	469	<20
3	24.1	597	719	841	366	488	610	<20

Beam length = 1.80 m (Coil length = 1.64 m)
 Water flow, $q_w = 0.05$ l/s, Pressure drop, $\Delta p_w = 4.5$ kPa

Nozzle	$q_l, \text{l/s}$	P_{tot}, W			P_{coil}, W			$L_{A10}, \text{dB(A)}$
		6	8	10	6	8	10	
1	10.1	446	562	678	349	465	581	<20
2	20	668	826	985	476	634	793	<20
3	41.2	996	1197	1397	601	801	1001	<20

Beam length = 2.40 m (Coil length = 2.24 m)
 Water flow, $q_w = 0.05$ l/s, Pressure drop, $\Delta p_w = 5.5$ kPa

Nozzle	$q_l, \text{l/s}$	P_{tot}, W			P_{coil}, W			$L_{A10}, \text{dB(A)}$
		6	8	10	6	8	10	
1	13.4	603	762	920	475	633	791	<20
2	26.4	900	1115	1331	647	862	1078	21
3	54.5	1325	1592	1859	802	1069	1336	33

Beam length = 3.00 m (Coil length = 2.84 m)
 Water flow, $q_w = 0.05$ l/s, Pressure drop, $\Delta p_w = 6.7$ kPa

Nozzle	$q_l, \text{l/s}$	P_{tot}, W			P_{coil}, W			$L_{A10}, \text{dB(A)}$
		6	8	10	6	8	10	
1	16.9	763	963	1163	601	801	1001	<20
2	33.5	1128	1397	1665	806	1075	1344	21
3	68.5	1627	1951	2274	970	1293	1616	35

Technical data for heating effect

WEGA Standard, two-way chilled beam 6+2 rows (cooling/heating) at pressure drop 70 Pa on the air side Ø 125, the induction rail number 1.

Beam length = 1.20 m (Coil length = 1.04 m)

Water flow, $q_w = 0.05$ l/s, Pressure drop, $\Delta p_w = 2.0$ kPa

Nozzle	ql (l/s)	ql (l/s)			P coil, W dB(A)
		10	15	20	
1	2.9	110	165	330	<20
2	6	155	233	465	<20
3	9.7	189	284	567	<20
4	13.7	208	312	624	22
5	16.9	228	342	684	24
6	24.9	261	392	783	27

Data for rail 2 and other operating conditions, see ExSelAir.

Beam length = 1.80 m (Coil length = 1.64 m)

Water flow, $q_w = 0.05$ l/s, Pressure drop, $\Delta p_w = 2.5$ kPa

Nozzle	ql (l/s)	ql (l/s)			P coil, W dB(A)
		10	15	20	
1	4.6	171	257	513	<20
2	9.4	243	365	729	<20
3	14.9	299	449	897	<20
4	21.1	339	509	1017	23
5	26	361	542	1083	25
6	38.8	409	614	1227	30

Beam length = 2.40 m (Coil length = 2.24 m)

Water flow, $q_w = 0.05$ l/s, Pressure drop, $\Delta p_w = 2.8$ kPa

Nozzle	ql (l/s)	ql (l/s)			P coil, W dB(A)
		10	15	20	
1	7.2	238	357	714	<20
2	13.6	332	498	996	<20
3	21	408	612	1224	20
4	29.6	461	692	1383	24
5	36.6	489	734	1467	27
6	53	543	815	1629	33

Beam length = 3.00 m (Coil length = 2.84 m)

Water flow, $q_w = 0.05$ l/s, Pressure drop, $\Delta p_w = 5.0$ kPa

Nozzle	ql (l/s)	ql (l/s)			P coil, W dB(A)
		10	15	20	
1	8.4	300	450	900	<20
2	16.5	417	626	1251	<20
3	26	512	768	1536	21
4	37.2	580	870	1740	25
5	45.3	604	906	1812	28
6	65.5	669	1004	2007	33

WEGA Power, two-way chilled beam 8+2 rows (cooling/heating) at pressure drop 70 Pa on the air side Ø 125, the induction rail number 4.

Data for rail 1-3 and other operating conditions, see ExSelAir.

Beam length = 1.20 m (Coil length = 1.04 m)

Water flow, $q_w = 0.05$ l/s, Pressure drop, $\Delta p_w = 2.0$ kPa

Nozzle	ql (l/s)	ql (l/s)			P coil, W dB(A)
		10	15	20	
1	6.6	161	242	323	<20
2	13.1	195	293	390	<20
3	26.8	228	341	455	25

Beam length = 1.35 m (Coil length = 0.97 m)

Water flow, $q_w = 0.05$ l/s, Pressure drop, $\Delta p_w = 2.0$ kPa

Nozzle	ql (l/s)	ql (l/s)			P coil, W dB(A)
		10	15	20	
1	6.6	161	242	323	<20
2	13.1	195	293	390	<20
3	26.8	228	341	455	25

Beam length = 1.80 m (Coil length = 1.64 m)

Water flow, $q_w = 0.05$ l/s, Pressure drop, $\Delta p_w = 2.5$ kPa

Nozzle	ql (l/s)	ql (l/s)			P coil, W dB(A)
		10	15	20	
1	10.1	255	383	510	<20
2	20	308	461	615	<20
3	41.2	354	531	708	28

Beam length = 2.40 m (Coil length = 2.24 m)

Water flow, $q_w = 0.05$ l/s, Pressure drop, $\Delta p_w = 2.8$ kPa

Nozzle	ql (l/s)	ql (l/s)			P coil, W dB(A)
		10	15	20	
1	13.4	348	521	695	<20
2	26.4	416	624	833	20
3	54.5	470	705	940	33

Beam length = 3.00 m (Coil length = 2.84 m)

Water flow, $q_w = 0.05$ l/s, Pressure drop, $\Delta p_w = 3.5$ kPa

Nozzle	ql (l/s)	ql (l/s)			P coil, W dB(A)
		10	15	20	
1	16.9	438	656	875	<20
2	33.5	523	784	1045	21
3	68.5	574	861	1148	35

Technical data, sound data

Conditions for cooling effect tables

Total cooling effect of beam, P_{tot} = cooling effect of coil, P_{coil} + cooling effect of supply air, P_{air} .

The assumed pressure drop on the air side is 70 Pa.

The cooling effect of supply air is based on an undertemperature of 8 °C, when compared to the room temperature.

The effects for other water flows than 0,05 l/s can be found in the Fläkt Woods product selection tool, ExSelAir.

Note! The tables here are based on tests done according to the EN 15116 standard. The purpose of this standard is to be able to compare different chilled beams on the same terms. The method requires a non-existing temperature difference between the air entering the beam coil and the air at 1.1 m above floor surface. To achieve this, the walls in the test room are cooled.

In actual conditions, the temperature difference is normally 1 °C. This is why the temperature Δt should be increased by 1 °C to avoid overdimensioning of the beam.

This means that the table value concerned can be increased by 10%.

Electric heating effect

The chilled beams can be equipped with electric heating of 300 W/600W, see the separate catalogue section Electric heating.

Definitions

q_l	Supply air flow, l/s
P_{tot}	Total cooling effect, W
P_{coil}	Cooling effect of the coil, W
$P_{coil\ heat}$	Heating effect of the coil, W
Δt	Difference between room air temperature and average water temperature, °C
Δp_w	Pressure drop water, kPa
Δt_w	Temperature change in the coil, °C. Calculated with the formula: $\Delta t_w = P_{coil} / 208$
L_{A10}	Sound pressure level in a room with 10 m ² room absorption, dB(A)

Sound power level

WEGA	Correction K dB							
	Octave band, middle frequency, Hz							
	63	125	250	500	1000	2000	4000	8000
120	4	3	4	3	0	-8	-17	-18
135	4	3	4	3	0	-8	-17	-18
180	4	3	4	3	0	-8	-17	-18
240	4	3	4	3	0	-8	-17	-18
300	4	3	4	3	0	-8	-17	-18
Tot	±	4	2	2	1	1	2	3

The sound power levels for every octave band are obtained by adding together the sound pressure level L_{A10} , dB(A), and the corrections K_{ok} given in the table above, according to the following formula:

$$L_W = L_{A10} + K_{ok}$$

Correction K_{ok} is the average in the area of application of the chilled beam WEGA.

Sound attenuation

The average sound attenuation ΔL of chilled beam WEGA from duct to room includes the end reflection of the connecting duct.

WEGA	Sound attenuation in supply air duct of the beam ΔL , dB							
	Octave band, middle frequency, Hz							
	63	125	250	500	1000	2000	4000	8000
120	26	17	16	20	19	19	24	20
135	26	17	16	20	19	19	24	20
180	26	17	16	20	19	19	24	20
240	26	17	16	20	19	19	24	20
300	26	17	16	20	19	19	24	20

Technical data, flow patterns

Technical data for un-equal air diffusion

A chilled beam with two-way air distribution utilizes the coil in full, which is not the case in one-way distribution or middle positions.

WEGA Standard

The tables below shows the cooling capacity for the induction rail number 1, the coil with 8 rows at Δt 8°C. Total pressure 70 Pa and water flow 0.05 l/s.

Beam length	120		135		180		240		300	
Nozzle setting	q (l/s)	8 Rows	q (l/s)	8 Rows	q (l/s)	8 Rows	q (l/s)	8 Rows	q (l/s)	8 Rows
6-1	14	357	-	-	22,1	559	31,6	763	40,3	961
6-2	15,5	371	16,7	349	24,4	584	34,5	791	43,8	981
6-3	17,4	386	18,6	368	27,1	604	37,9	812	47,9	1011
6-4	19,3	405	21,9	390	30,1	632	41,8	843	52,7	1043
6-5	20,9	418	26,8	417	32,4	648	45	871	56,3	1072
5-1	9,9	301	-	-	15,4	472	22,3	656	27,8	824
5-2	11,5	325	13,5	317	17,8	508	25,3	699	31,6	873
5-3	13,3	346	15,3	337	20,5	543	28,9	741	36	920
5-4	15,3	368	18,7	369	23,6	577	33,1	781	41,3	965
4-1	8,3	275	-	-	12,9	428	18,6	589	23,2	748
4-2	9,8	299	8,3	240	15,3	470	21,7	641	27,1	807
4-3	11,7	327	10,2	269	18	510	25,3	699	31,7	873
3-1	6,3	233	-	-	9,8	363	14,2	498	17,3	927
3-2	7,8	264	4,9	174	12,1	414	17,3	562	21,3	711
2-1	4,4	185	-	-	7	291	10,4	401	12,4	503

WEGA Power

The tables below shows the cooling capacity for the induction rail number 4, the coil with 10 rows at Δt 8°C. Total pressure 70 Pa and water flow 0.05 l/s.

Beam length	120		135		180		240		300	
Nozzle setting	q (l/s)	10 row (W)	q (l/s)	10 row (W)	q (l/s)	10 row (W)	q (l/s)	10 row (W)	q (l/s)	10 row (W)
3-1	16,9	468	15,1	412	26,3	747	35,4	1012	45,9	1267
3-2	20,1	503	18	439	31	793	41,3	1063	52,9	1331
2-1	9,9	366	8,9	322	15,1	577	19,9	783	24,4	988

Airflow, quick selection

Wega

Beam Length	Induction setting		Air pressure drop (Pa)			
	rail	nozzle	60	80	100	120
120	1	1	2,6	3,2	3,6	4,1
120	1	2	5,6	6,4	7,2	7,8
120	1	3	9	10,3	11,6	12,7
120	1	4	12,6	14,6	16,2	17,8
120	1	5	15,7	18	20	21,9
120	1	6	23	26,6	29,7	32,6
120	2	1	3,6	4,2	4,8	5,3
120	2	2	4,1	4,9	5,5	6,1
120	2	3	6,5	7,6	8,6	9,4
120	2	4	7,1	8,3	9,3	10,2
120	2	5	11,4	13,1	14,6	15,9
120	2	6	18,2	20,9	23,3	25,5
135	1	1	-	-	-	-
135	1	2	2,7	3,3	3,7	4,2
135	1	3	6,2	7,3	8,3	9,1
135	1	4	12,5	14,5	16,1	17,7
135	1	5	22	25,3	28,3	31
135	1	6	27,7	32	35,7	39,1
135	2	1	-	-	-	-
135	2	2	4,2	4,8	5,4	5,9
135	2	3	8,9	10,2	11,5	12,6
135	2	4	10,9	12,7	14,3	15,8
135	2	5	15,4	17,6	19,6	21,4
135	2	6	17,6	20,3	22,7	24,9
180	1	1	4,2	5	5,6	6,2
180	1	2	8,7	10	11,3	12,4
180	1	3	13,9	15,9	17,7	19,3
180	1	4	19,6	22,5	25	27,3
180	1	5	24,1	27,8	31	33,9
180	1	6	35,7	41,2	46,1	50,5
180	2	1	5,6	6,6	7,4	8,2
180	2	2	6,6	7,6	8,4	9,2
180	2	3	10,1	11,6	12,9	14,1
180	2	4	11,1	12,7	14,1	15,4
180	2	5	17,2	19,9	22,4	24,6
180	2	6	28,6	33	36,8	40,3
240	1	1	6,6	7,7	8,7	9,5
240	1	2	12,5	14,5	16,1	17,7
240	1	3	19,4	22,5	25,2	27,6
240	1	4	27,4	31,6	35,2	38,6
240	1	5	33,9	39	43,6	47,7
240	1	6	48,8	56,5	63,3	69,5
240	2	1	8,2	9,6	10,8	11,9
240	2	2	9,5	11	12,3	13,5
240	2	3	14,1	16,2	18,1	19,8
240	2	4	15,5	17,8	19,8	21,7
240	2	5	24	27,8	31,1	34,1
240	2	6	38,8	44,8	50,1	54,9
300	1	1	7,8	9	10	10,9
300	1	2	15,3	17,6	19,5	21,3
300	1	3	24,1	27,7	30,9	33,7
300	1	4	34,4	39,7	44,4	48,7
300	1	5	42,1	48,5	54,2	59,3
300	1	6	60,8	70,2	78,4	85,8
300	2	1	10,9	12,7	14,3	15,8
300	2	2	12,3	14,3	15,9	17,5
300	2	3	17,8	20,7	23,3	25,7
300	2	4	19,5	22,6	25,3	27,7
300	2	5	30,6	35,3	39,4	43,1
300	2	6	48,6	56,2	62,9	69

Wega Power

Beam Length	Induction setting		Air pressure drop (Pa)			
	rail	nozzle	60	80	100	120
120	1	1	2,6	3,1	3,6	4
120	1	2	6,9	8	8,9	9,8
120	1	3	13,9	15,9	17,6	19,2
120	2	1	3,9	4,5	5,1	5,7
120	2	2	7,6	8,8	9,8	10,7
120	2	3	17	19,5	21,7	23,6
120	3	1	4,5	5,2	5,9	6,5
120	3	2	9,7	11,2	12,5	13,7
120	3	3	19,9	22,8	25,4	27,7
120	4	1	6,1	7	7,9	8,7
120	4	2	12,2	14	15,6	17,1
120	4	3	24,9	28,7	32	35
135	1	1	2,6	3	3,3	3,6
135	1	2	6,3	7,3	8,1	8,9
135	1	3	12,7	14,5	16,1	17,6
135	2	1	3,5	4,1	4,6	5,1
135	2	2	6,9	7,9	8,9	9,7
135	2	3	15,5	17,7	19,7	21,5
135	3	1	4	4,7	5,3	5,8
135	3	2	8,8	10,2	11,3	12,4
135	3	3	18,1	20,7	23	25,1
135	4	1	5,5	6,3	7,1	7,8
135	4	2	11	12,6	14,1	15,4
135	4	3	22,4	25,7	28,7	31,4
180	1	1	4,2	4,9	5,5	6,1
180	1	2	10,7	12,3	13,7	15
180	1	3	21,1	24,3	27,1	29,6
180	2	1	5,9	6,9	7,7	8,4
180	2	2	11,7	13,5	15	16,4
180	2	3	25,8	29,7	33,1	36,2
180	3	1	6,9	8	8,9	9,7
180	3	2	14,8	16,9	18,8	20,4
180	3	3	30	34,5	38,5	42
180	4	1	9,4	10,8	12	13,1
180	4	2	18,6	21,3	23,6	25,8
180	4	3	38,3	44,1	49,3	53,9
240	1	1	5,6	6,5	7,3	8
240	1	2	13,8	15,9	17,7	19,4
240	1	3	27,3	31,5	35,2	38,5
240	2	1	8	9,3	10,4	11,4
240	2	2	15,4	17,7	19,7	21,5
240	2	3	34	39,2	43,7	47,8
240	3	1	9,3	10,7	12	13,1
240	3	2	19,4	22,4	25,1	27,5
240	3	3	39,5	45,6	50,8	55,6
240	4	1	12,4	14,2	15,8	17,2
240	4	2	24,4	28,2	31,4	34,4
240	4	3	50,5	58,3	65,2	71,5
300	1	1	7,6	8,7	9,7	10,6
300	1	2	18,2	20,9	23,2	25,2
300	1	3	35,7	41,1	45,8	50,1
300	2	1	10,5	12,1	13,5	14,7
300	2	2	19,7	22,7	25,4	27,7
300	2	3	43,1	49,7	55,5	60,8
300	3	1	11,9	13,7	15,3	16,7
300	3	2	24,7	28,4	31,7	34,6
300	3	3	50,1	57,8	64,6	70,7
300	4	1	15,6	18	20,2	22,1
300	4	2	31,1	35,9	40,1	43,8
300	4	3	63,4	73,2	81,7	89,4

Construction and function

Construction and function

Chilled beam WEGA is available in different designs. Length 135 cm is suitable for installation in Fine Line ceiling, which means that it is flush with the ceiling. The air is connected to the chilled beam long side. The lengths of 120 cm, 180 cm, 240 cm and 300 cm is also suitable for installation in the ceilings surface, the dimensions makes it possible to put the beam in the ceiling T-24 profile. The air is connected to the chilled beams gable end. The length of 120 cm, 180 cm and 240 cm are also available with a height of only 152 mm, designed specifically for buildings with low ceilings. The length of 300 cm, is also available with 160 mm air connection.

The WEGA chilled beam is a very flexible chilled beam that is available as a basic model, but can also be equipped with a number of functions to provide a multifunctional chilled beam. The following functions are available for WEGA: electric heating, Energy Control, Motorized Energy Control (MEC), Flow Pattern Control (FPC air deflector) and control and regulation equipment.

In order to handle variations in airflow, a ventilation system with WEGA and MEC should be controlled with a constant pressure, i.e. the static pressure before the chilled beam should remain constant regardless of airflow which requires the duct work to be properly designed. For help with sizing and designing the duct work, see the section Project Design EMPA / EMPD in documentation Optivent project design.

Energy Control

The air flow is easily adjusted using the patented Energy Control function, which also allows different forms of air distribution (two-way, one-way and midway position). For even greater flexibility there is also a Motorized Energy Control (MEC) option for pressure dependent ventilation.

Energy control WEGA Standard

Energy control on WEGA Standard is delivered with 6 different sizes of nozzles. When the beam is installed, the air flow can be adjusted to 6 different levels without any tools needed.

In addition, these 6 levels can be individually set on each side of the beam, resulting in an asymmetric air flow distribution.

There are two induction rails available with each different sizes of nozzles. The rail number 1 is the standard rail with the widest airflow range whereas the rail number 2 enables to achieve airflows not available with the rail number 1. Thus there are $6 \times 2 = 12$ different settings for designing.

Energy control WEGA Power

WEGA Power is a chilled beam with focus on a high cooling effect which makes it slightly less flexible than WEGA Standard. Energy control for WEGA Power is delivered with 3 different sizes of nozzles. When the beam is installed, the air flow can be adjusted to 3 different levels without any tools needed.

These 3 levels can, just like on WEGA Standard, be individually set on each side of the beam, resulting in an asymmetric air flow distribution.

There are four different rails available with each different nozzles sizes. These have been designed to cover wide range of airflows. Thus there are $3 \times 4 = 12$ different settings for designing (i.e. the same as Wega Standard).

Motorized Energy Control (MEC)

WEGA Standard/Power can be equipped with MEC which enables a pressure dependent air flow. In order to achieve this, WEGA Standard/Power must be equipped with a motor (IQAZ-23) and control with the aid of a thermostat (STRA-14). For more in-depth information about IQAZ-23 and STRA-14, see their documentation.

In normal operation the beam is set to the chosen air flow setting. At times of heavy demand (increased supply air demand) the chilled beam is switched to boost mode by means of a pushbutton or CO2 sensor. If a presence detector or pushbutton is installed in the room the beam can also be programmed to switch to Energy Saving Mode.

The room controller (STRA-14) has 5 operating modes. For each operating mode, one specific nozzle size is used. Depending on operating mode, the nozzle size used is changed on the beam.

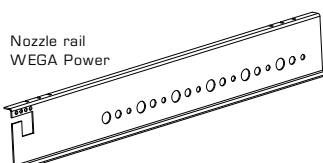
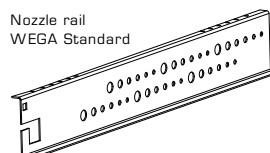
The room controller (STRA-14) uses 3 different airflow levels:

1. Energy Saving mode – Used when the room controller is operating in Unoccupied or Standby mode.
2. Normal airflow – Used when the room controller is operating in Occupied mode.
3. Boost airflow – Used when the room controller is operating in Boost mode.

Which nozzle to be used for each airflow level (Energy Saving mode, Normal airflow and Boost airflow), is set in the room controller STRA-14.

For WEGA, the airflow levels can be set to following nozzles:

Operating mode	Nozzle WEGA Standard	Nozzle WEGA Power
Energy Saving mode	1-4	1
Normal flow	2-5	2
Boost mode	3-6	3



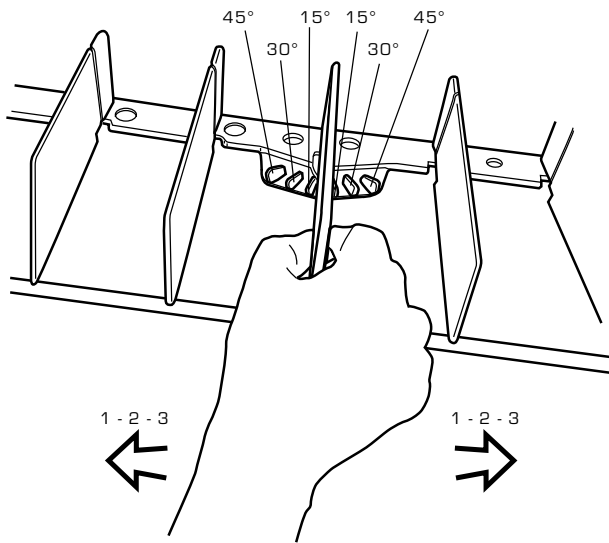
Construction and function

Flow Pattern Control (FPC)

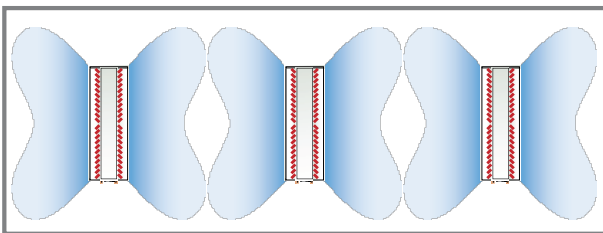
The FPC (Flow Pattern Control) function for WEGA provides high flexibility. The combination of flow pattern control (FPC) and the patented comfort control gives WEGA unique characteristics.

Flakt Woods FPC air deflector provides the facility to adjust the air direction to different angles. The FPC is adjusted and changed easily by a simple operation.

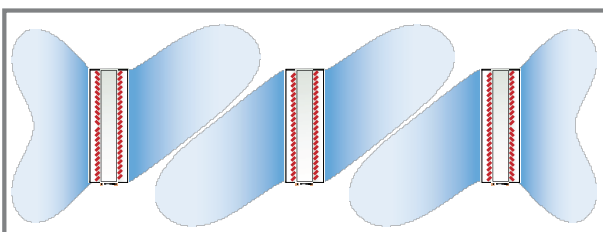
Installation example with FPC air deflector and comfort setting



The figure below shows an installation in which the air direction is set at 30° in two directions and the air flow is set with the comfort control setting at 50% - 50%. This installation alternative provides an effective and comfortable air distribution in the room.



The figure below shows an installation in which a high air flow is required. The comfort control setting is still set at 50% - 50%, but the air deflectors are set respectively at 30° in two directions and at 30° in one direction.

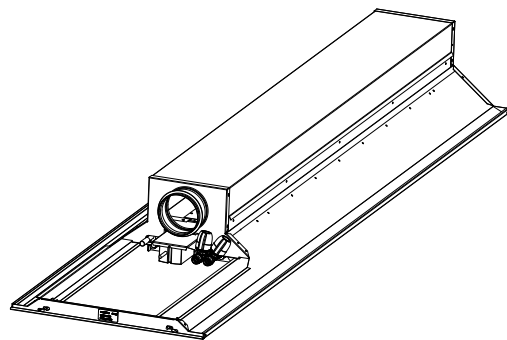


Extended casing

WEGA Standard and WEGA Power chilled beams are available with extended casing. This version enables an access to the valves, the VAV actuator and controller just by opening the front plate. 2 lengths are available: 300 mm and 600 mm. The 600 mm version is not available for the 3 m chilled beam length.

As an accessory, there is a plate (IQAZ-17) mounted above the extended part in order to have the same aesthetic along the length of the chilled beam.

This option is only available for T24 false ceiling.



Material and surface finish

The casing is mainly made of galvanized steel sheet. The frontplate is powder painted in white. The standard colour RAL 9010, which corresponds to NCS 0502-Y, gloss level 30. Coil made of copper pipe with connection, Øout = 15 mm, and aluminium fins. Maximum working pressure 1.6 MPa.

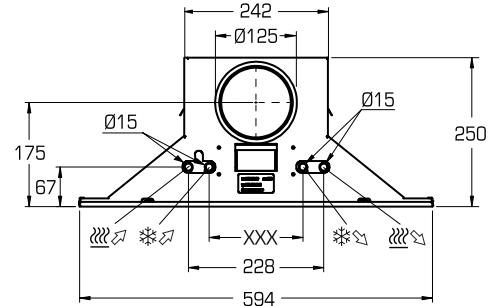
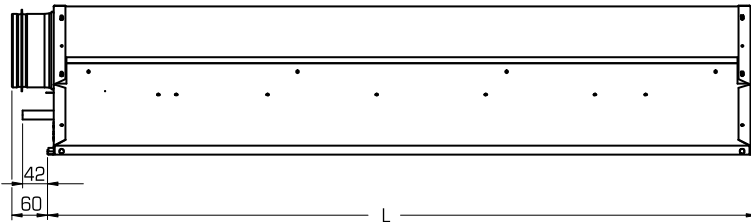
Instructions

Instructions for installation, maintenance and commissioning are described in detail in our technical instructions which are supplied with every product. The instructions are also available on the Internet at www.flaktwoods.com.

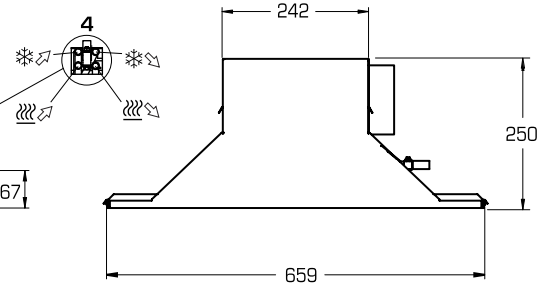
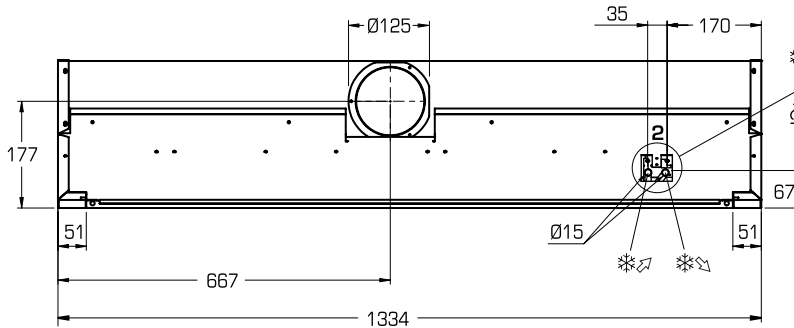
Dimensions and weight information

Dimensions and weights

IQIF/IQIH-aaa-11-cc-d-e / IQIF/IQIH-aaa-13-cc-d-e

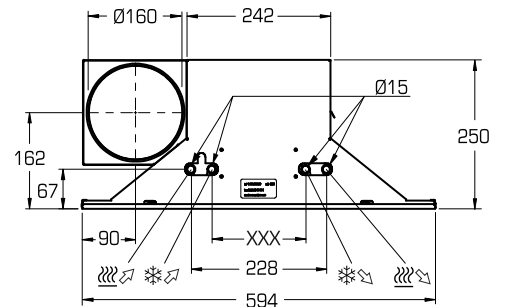


IQIF/IQIH-135-22-cc-d-e / IQIF/IQIH-135-44-cc-d-e

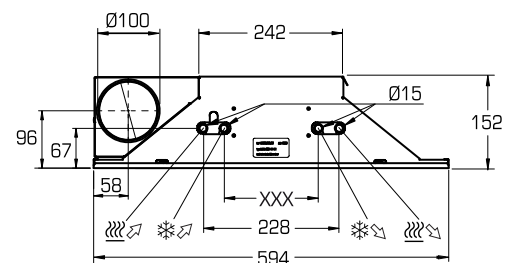
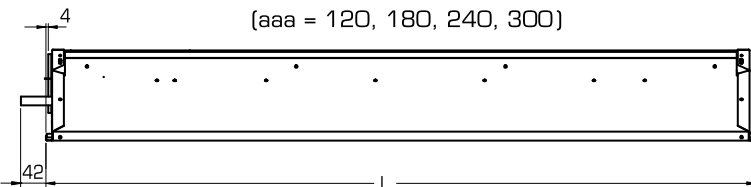


XXX = 228 when c = 01, 02, 05, 06
 XXX = 158 when c = 03, 04

IQIF/IQIH-aaa-51-cc-d-e / IQIF/IQIH-aaa-53-cc-d-e



IQIF/IQIH-aaa-71-cc-d-e / IQIF/IQIH-aaa-73-cc-d-e
 (aaa = 120, 180, 240, 300)



aaa	120	180	240	300
L	1194	1794	2394	2994

Water volume cooling, 10 rows = 0,63 l/m coil
 Water volume cooling, 8 rows = 0,50 l/m coil
 Water volume cooling, 6 rows = 0,38 l/m coil
 Water volume heating, 2 rows = 0,13 l/m coil

*↗ = Cooling water in
 *↘ = Cooling water out
 ≡↗ = Heating water in
 ≡↘ = Heating water out

All connections are male

Weight

aaa	120	135	180	240	300
Beam dry weight, kg	19.0	21.0	27.0	35.0	43.0
Beam water filled, kg	20.0	22.0	28.0	37.0	45.0

Product code

Main code

WEGA Standard
WEGA Power

IQIF-aaa-bb-cc-d-e
IQIH-aaa-bb-cc-d-e

Length (aaa) cm

120, 135, 180, 240, 300

Connection alternative (bb)

11 = Air/Water same gable. Height=250 mm.
Air connection=Ø125 mm. (only aaa=120,180,240,300)

13 = Air/Water opposite gable. Height=250 mm.
Air connection=Ø125 mm. (only aaa=120,180,240,300)

22 = Air/Water left side. Height=250 mm.
Air connection=Ø125 mm.

44 = Air/Water right side. Height=250 mm.
Air connection=Ø125 mm.

51 = Air/Water same gable. Height=250 mm.
Air connection=Ø160 mm. (only aaa=300)

53 = Air/Water opposite gable. Height=250 mm.
Air connection=Ø160 mm. (only aaa=300)

71 = Air/Water same gable. Height=152 mm.
Air connection=Ø100 mm. (only aaa=120, 180, 240, 300)

73 = Air/Water opposite gable. Height=152 mm.
Air connection=Ø100 mm. (only aaa=120, 180, 240, 300)

Comfort control WEGA Standard(d)

1 = With EC, rail 1
2 = With EC, FPC, rail 1
3 = With EC, rail 2
4 = With EC, FPC, rail 2

Comfort control WEGA Power(d)

1 = With EC, rail 1
2 = With EC, FPC, rail 1
3 = With EC, rail 2
4 = With EC, FPC, rail 2
5 = With EC, rail 3
6 = With EC, FPC, rail 3
7 = With EC, rail 4
8 = With EC, FPC, rail 4

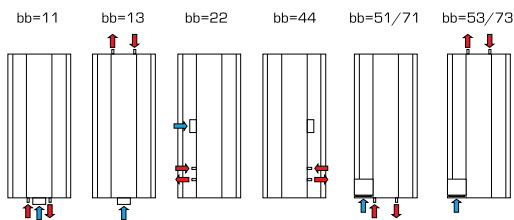
False ceiling type and extended casing (e)

1 = Fine Line, 51 mm gables, width=659 mm (only aaa = 135)

2 = T24, 12 mm gables, width = 594 mm (only aaa = 120, 180, 240, 300)

3 = T24, 12 mm gables, width = 594 mm, extended casing 300 mm (only for aaa = 060, 120, 180, 240, 300 ; bb = 11, 22, 44, 51, 71)

4 = T24, 12 mm gables, width = 594 mm, extended casing 600 mm (only for aaa = 060, 120, 180, 240 ; bb = 11, 22, 44, 51, 71)



Coil construction (cc) WEGA Standard

- 01 = Cooling 8 pipe
- 02 = Cooling 8 pipe with purging nipple
- 03 = Cooling \ Heating 6 \ 2 tubes (only aaa=120,180,240,300)
- 04 = Cooling \ Heating 6 \ 2 tubes w. purging nipple (only aaa=120,180,240,300)
- 05 = Cooling 6 tubes (only aaa=120,180,240,300)
- 06 = Cooling 6 tubes w. purging nipple (only aaa=120,180,240,300)

Coil construction (cc) WEGA Power

- 01 = Cooling 10 pipe
- 02 = Cooling 10 pipe with purging nipple
- 03 = Cooling \ Heating 8 \ 2 tubes (only aaa=120,180,240,300)
- 04 = Cooling \ Heating 8 \ 2 tubes w. purging nipple (only aaa=120,180,240,300)
- 05 = Cooling 8 pipe (only aaa=120,180,240,300)
- 06 = Cooling 8 pipe w. purging nipple (only aaa=120,180,240,300)

Accessories

Motorized Energy Control

IQAZ-23-bb-1-3-0-0

Version (bb)

02 = IQIF/IQIH-135

03 = IQIF/IQIH-120, 180, 240, 300

Sides connected (c)

1 = Both sides

Version (d)

3 = 24 V, 3-position variable* (e = 0; f = 0)

Factory-set hole setting for normal mode (e)

0 = None (e = f)

Factory-set hole setting for active mode (f)

0 = None

Code with mounted accessory heating film

Code

IQAZ-27-bbb-c-d-ee

Length (bbb) cm

Effect (c)

1 = 300 W

(for beam length 120, 180)

2 = 600 W

(for beam length 240, 300)

Connection (d)

0 = Without, ends of cable with housings

Beam type (ee)

01 = IQIF

Fastening bracket, unpainted

QFAZ-18-6-1

Set with 2 pcs.

1 set QFAZ-18-6-1 per beam



Fastening bracket, unpainted

QFAZ-19-3-1

For beam with low unit height

Set with 2 pcs.

1 set QFAZ-19-3-1 per beam

Fastening bracket, unpainted

IQAZ-02-2-1

For beam with low unit height and flushmounting

Set with 4 pcs.

1 set IQAZ-02-2-1 per beam

Suspension rods M8

QFAZ-12

Set with 2 pcs. Length 500 mm.

2 sets QFAZ-12 per beam



Suspension bracket

QFAZ-11-1

One set with 2 pcs.

One set per beam



Crosstalk protection plate for chilled beam

IQAZ-17-bb-cc-d

Execution (bb)

01 = Standard (only cc = 01, 02)

02 = Extended 600 mm

03 = Extended 300 mm (only cc = 03, 04)

Beam type (cc)

03 = IQIF - WEGA

04 = IQIH - WEGA Power

Montering (d)

1 = Installed

2 = For post-installation

Delivery execution

Protective film over painted surfaces and plastic covers for duct and pipe openings are standard.

Order example:

Covered chilled beam IQIF-135-22-01-1-1, standard.
Fastening bracket, unpainted QFAZ-18-6-1.

Special constructions

Describe the deviations from the standard model clearly and replace the product code letter standing for the construction part in question with an X.

The functions Flow Pattern control (FPC), electric heating, control and regulation equipment and Energy Control are described in a separate section of this catalogue.