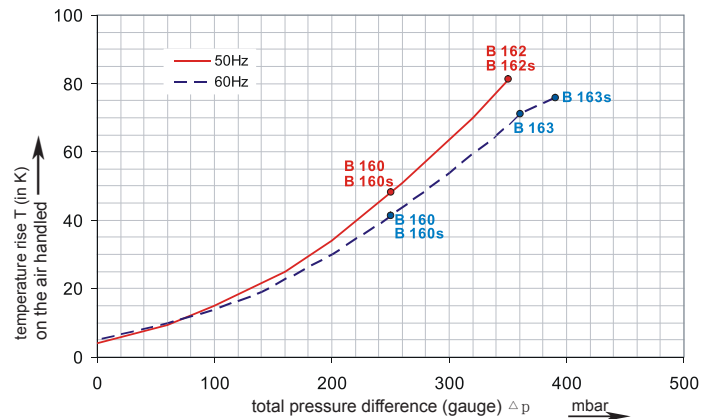
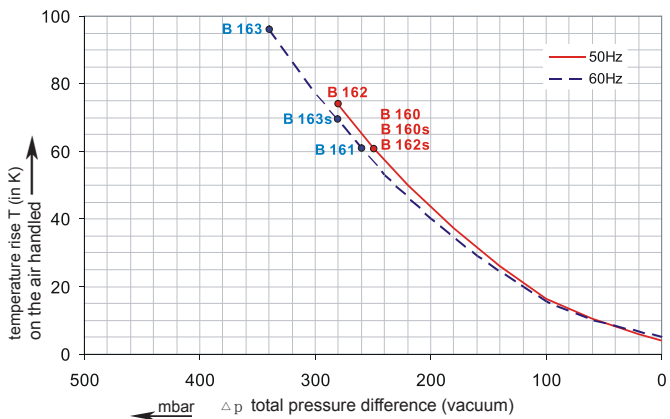
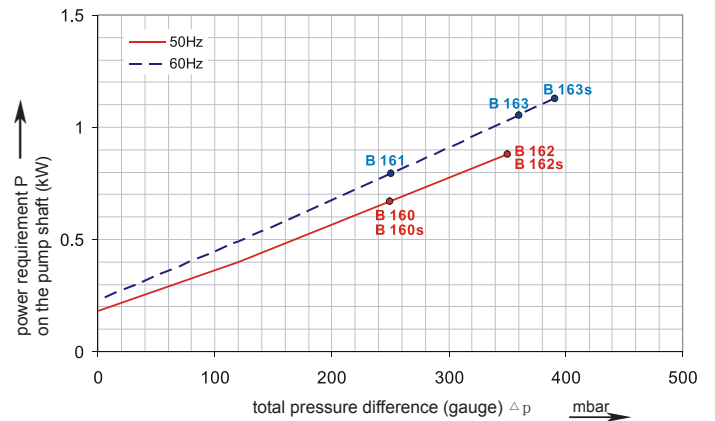
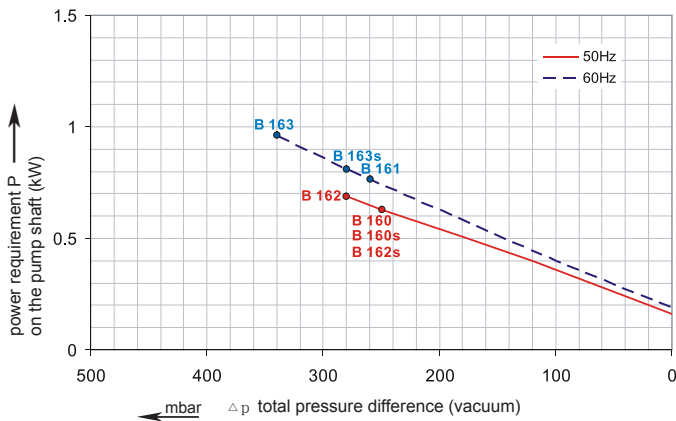
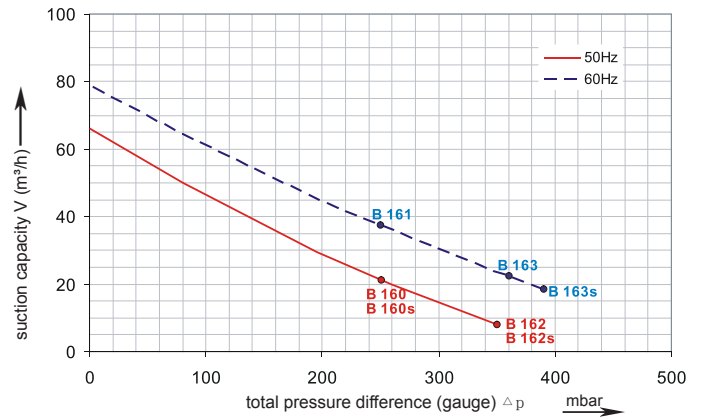
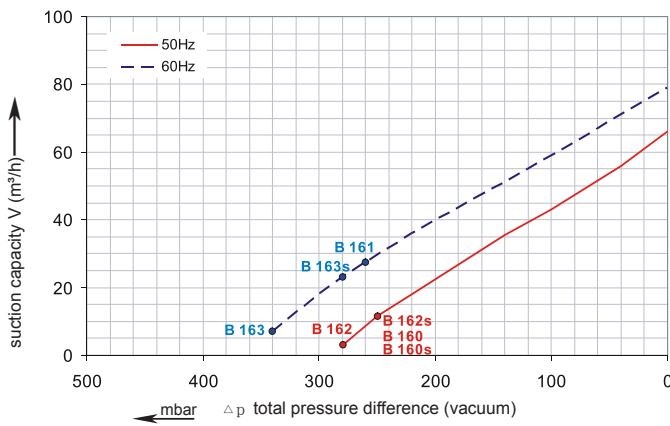


# Data sheet 4HB 310

## 4HB

Performance curve for Vacuum pump

Performance curve for Compressor



The performance curves are based on air at a temperature of 15 °C and an atmospheric pressure of 1013 mbar with a tolerance of +/- 10 %. The total pressure differences are valid for suction and ambient temperatures up to 25 °C. For other conditions please confer with us.

Each 4HB type can be applied both as vacuum pump and compressor in continuous operation over the total stated performance curve range. The motors are available as standard for the input voltage range of 50 and 60 Hz and for protection category IP 55 as well as approved for UL and CSA.



### Selection and ordering data

#### Type 4HB310

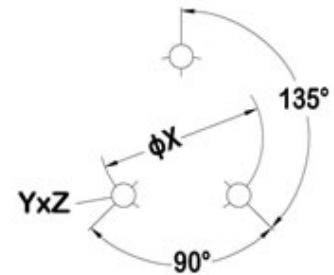
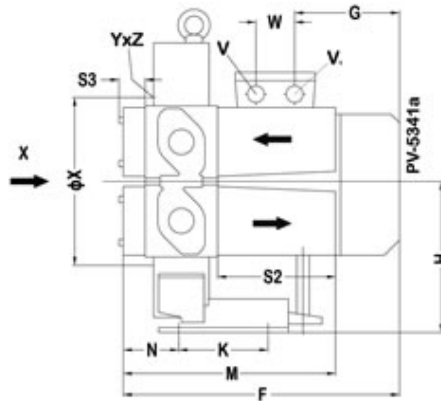
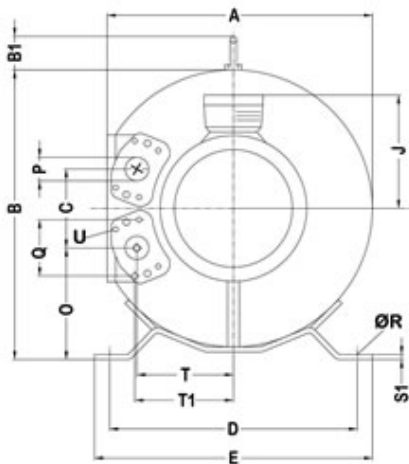
Curve No.	Order No.	Frequency Hz	Rated power kW	Input voltage		Input current		Permissible total differential pressure <sup>2)</sup>		Sound pressure level <sup>3)</sup> dB(A)	Weight ca. kg
				V		A		Vacuum mbar	Compressor mbar		

#### 3~ 50/60 Hz IP55 insulation material class F 1)

B 160	4HB 310-055T	50	0.55	200D ... 240D	345Y...415Y	2.8D	1.6Y	-250	250	57	16
B 161	4HB 310-055T	60	0.63	220D ... 275D	380Y...480Y	3.0D	1.7Y	-260	250	62	16
B 162	4HB 310-081T	50	0.81	200D ... 240D	345Y...415Y	4.0D	2.3Y	-280	350	57	17
B 163	4HB 310-081T	60	0.94	220D ... 275D	380Y...480Y	4.0D	2.3Y	-340	360	62	17

#### 1~ 50/60 Hz IP55 with attached condenser for continuous operation

B 162s	4HB 310-094S	50	0.94	115	230	15.2	7.6	-250	350	57	18
B 163s	4HB 310-094S	60	1.1	115	230	18.0	9.0	-280	390	62	18



<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>		
313	339	94	290	325	295		
<b>G</b>	<b>H</b>	<b>J</b>	<b>K</b>	<b>M</b>	<b>N</b>	<b>O</b>	
153	177	120	105	256	67	130	
<b>P</b>	<b>Q</b>	<b>ØR</b>	<b>S1</b>	<b>S2</b>	<b>S3</b>	<b>T</b>	<b>T1</b>
G 1 ¼	64	14	4	140	31	114	116
<b>U</b>	<b>V</b>	<b>V1</b>	<b>W</b>	<b>ØX</b>	<b>Y_Z</b>		
M6×17	M25×1.5	M16×1.5	32	153	M6×15		

All 4HB achieve the standards and norms of the low voltage directive (LVD)2006/95/EC, rotating electrotechnical motor EN 60034-1-2004, electromagnetic compatibility(EMC)EN55014-1/2,EN61000-2/-3/-4/-6.

- 1) For standard UL for ELECTRIC MOTOR UL 1004-1.
- 2) Relief-valve are available for limiting differential pressure.
- 3) Measuring-surface sound-pressure level acc. to DIN EN 21680, measured at a distance of 1 m. The pump is throttled to an average suction pressure, a hose is connected to the discharge side (compressor) / suction side (vacuum pump), but is not fitted with relief valves.

The motors are designed according to the DIN EN 60 034 / DIN IEC 34-1 and temperature class F.  
For the three phase machines the tolerances are +/- 10 % for fixed voltage and +/- 5 % for voltage range.  
The single phase machines are designed with a +/- 5 % tolerances. If only 90 % of the maximum allowed pressure will be used for the continuous operating then the allowed voltage range add to +/- 10 %.  
For all single and three phase machines which designed according to the UL and CSA norm (UL 1004-1) the maximum allowed voltage tolerances are - 10 % resp. + 6 %.  
The frequency tolerance is maximum +/- 2 %.